WHAT MAKES MORTGAGE FINANCE MARKETS WORK? AN INQUIRY INTO RESIDENTIAL MORTGAGE FINANCE DEVELOPMENT IN DEVELOPING ECONOMIES

A Thesis Submitted to the School of Real Estate and Planning in Fulfilment of the Requirements for the Degree of Doctor of Philosophy

By

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DECLARATION

I confirm that this is my own work and the use of all material from other sources has been properly and fully acknowledge.

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Date: 09 November 2018.

Signature:

DEDICATION

To God, my light and my ultimate reward.

To Mummy (Mary Gyamfi) and Daddy (Erasmus Hyiaman Donkor), for the sacrifices you have made and continue to make towards my education.

To my siblings (Maame Ama Hyiaman and Hannah Adoma), for your service to me. It is my hope that this feat will motivate you to achieve greater heights.

ABSTRACT

Housing costs typically constitute more than the annual income of potential homeowners both in developed and developing countries. The capital-intensive nature of housing investments, therefore, make some form of consumption smoothening necessary for homeownership to become affordable to many people. Mortgage finance development therefore contributes to economic growth and development. Despite its relevance, well-functioning mortgage finance systems have hardly emerged or are underdeveloped in most developing economies. The underdevelopment of mortgage markets is a characteristic that is not limited only to developing countries but also to some rich countries. This field has therefore excited academic interest, but gaps remain in the comparative analysis of the organisation, structure and performance of mortgage markets in developing economies. This research attempts to fill some of those gaps.

Using a multi-method research approach, implemented in three papers, this thesis investigates the extent to which markets enable mortgage finance and the reasons for wide variations in mortgage finance. Across 116 developing economies, we found that mortgage finance markets are more likely to deepen in highly urbanised countries. These countries are characterised by higher income levels (middle-income threshold and upwards); macroeconomic stability, large economically active population who have better access to the financial system and long-term lenders. These are lenders who can allocate mortgage credit relatively efficiently through public credit registers and whose rights are well protected by stronger institutional and regulatory frameworks. Other factors emerging from the case studies include having cultures that favour mortgage (debt) financing; land administration efficiencies; and efficient urban management and governance systems that foster the adequate supply of quality affordable housing in well-planned locations that benefit from the effective enforcement of development controls. Further, improving financial literacy levels and financial innovation may contribute to mortgage finance development.

The findings also indicate that stronger creditor property rights are associated with economies that are characterized by political stability, higher corruption control, effective governments, higher income levels, and judicial independence. It is argued here that these favourable factors are also not necessarily products of legal heritage, culture and geography as is assumed by existing theories of financial development. The political economies and political ideologies of developing economies play key roles in determining the quality of their mortgage institutional settings and the existence of these favourable conditions with ramifications for mortgage finance development.

The results have policy implications, some of which are briefly outlined here:

1. Financial inclusion (access) is leading indicator of financial and mortgage deepening;
2. There is a need for macroeconomic strengthening to improve affordability and demand for mortgage finance;

3. Economic and financial liberalisation promote mortgage deepening and financial development. The achievement of this outcome requires the development of economic institutions and infrastructure such as credit information sharing systems and appropriate legal systems. Poor legal fundamentals, in particular, the inability to create and enforce a mortgage lien in a reasonably efficient and cost-effective manner and high credit information asymmetry leads to increased risk of mortgage lending, higher transactions costs and markets that are both smaller and shallower regarding income strata served and the total size of investments;
4. Financial literacy and mortgage education is likely to make a significant contribution. There is, therefore, a need to instil mortgage financing as a culture deliberately;
5. Housing and urban planning policies to supply quality affordable housing in well-planned communities mostly those around central business districts are also vital. Mortgage financing could help in improving urban planning and the enforcement of development controls;
6. The digitisation of land title registers coupled with efficient access by creditors at lower cost must be prioritised if land registration is to have a significant effect on mortgage finance development;
7. Mortgage finance and finance general in developing countries benefits from a demographic dividend. Governments in developing countries (especially African countries) must take advantage of their large, youthful, and economically active population to put in the right policies and systems to develop mortgage finance.

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ABBREVIATIONS

BoG	Bank of Ghana
BHC	Bank for Housing and Construction
GNI	Gross National Income
CAHF	Centre for Affordable Housing Finance in Africa
CEF	Caixa Economica Federal
CDO	Collateralised Debt Obligation
CMO	Collateralised Mortgage Obligation
DC	Defined Contribution
DB	Defined Benefits
DFI	Development Finance Institutions
EMDC	Emerging Market and Developing Countries
FGTS	Fundo de Garantia por Tempo de Serviço
FGBS	First Ghana Building Society
FOVISSSTE	Fondo de Vivienda del Institute de Seguridad y de Servicios para los Trabajadores del Estado
GDP	Gross Domestic Product
GNI	Gross National Income
GREDA	Ghana Real Estate Development Association
GSS	Global Strategy for Shelter
HMB	Home Mortgage Bank
IMF	International Monetary Fund
INFONAVIT	Institute Nacional del Fondo de Vivienda para los Trabajadores
LSSV	La Porta, Lopez-De-Silanes, Shleifer, Vishny
LSS	La Porta, Lopez-De-Silanes, and Shleifer
LAC	Latin America and Carribean
MBS	Mortgage-Backed Securities
MENA	Middle East and North Africa
NRC/D	National Redemption Council/ Decree
OECD	Organization for Economic Cooperation and Development
OSI	Originating and Servicing Institutions
PABH	Pension Asset-Backed Housing
PNDC/L	Provisional National Defence Council/ Law
SMC/D	Supreme Military Council/ Decree
USAID	United States Agency for International Development
UN	United Nation
UNCHS	United Nations Centre for Human Settlements

CHAPTER ONE

INTRODUCTION

1.0 Background

Shelter is one of the primary needs of humans and different people in different countries have satisfied this need through a variety of means. While renting is economically sensible to some people given their economic circumstances and incentives available, many people across the globe prefer homeownership. A recurring concern, however, is how to finance homeownership most efficiently and effectively. Housing finance has thus become a topical issue among researchers, policymakers and international development partners. One of the lessons I have learnt from my experience in living in two different worlds, one developed and the other still making strides to develop, and my engagement with the extant literature is summed up in Bertrand Renaud's famous aphorism that *'cities are built the way they are financed'* (Renaud, 1987). Besides the type of finance, the breadth and depth of a city's capital markets among other factors affect its competitiveness (Lizieri, 2009).

Scholars submit that homeownership is a significant component of household wealth and for that matter, national wealth (Bardhan and Edelstein, 2008; Goldsmith, 1984). It is often capital intensive, and many potential homeowners cannot afford to finance it upfront and solely through equity. Even in the best environments, housing is a significant purchase, with average house prices typically ranging from four times the annual income in developed countries to eight times the yearly income in emerging economies (Ball, 2003). In developing countries, popular housing finance approaches include; direct government public housing; self-help incremental housing[1] (see Jones and Datta, 2001; Ward and Macoloo, 1992; Burgess, 1985; 1982; Turner, 1967; Abrams, 1966); housing microfinance[2]; pension asset-backed housing finance[3] (Donkor-Hyiaman and Owusu-Manu, 2016; Mutero et al., 2010), and to a lesser extent, mortgage financing.

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[1] Owners become self-developers relying on small crafts and trades to build 'gradually' over 5 to 15 years using their 'sweat equity' (personal savings) accumulated over long periods (Mathema, 1999; Tomlinson, 2007) or as and when funds become available (Donkor-Hyiaman and Owusu-Manu, 2016; Debrah, Ibrahim, and Rufasha, 2002).

[2] In this approach, small and short-term unsecured loans are mixed with sweat equity in the incremental housing process. Informal moneylenders and informal savings and loans associations like the *susu groups* in Ghana; *tanda* in Mexico; *hui* in Vietnam; *chilimba* in Zambia; *paluwagon* in the Philippines; *gamaiyah* in Egypt; *kusukus* in Ethiopia are the main sources of these loans (Anzorena et al., 1998; Ferguson, 1999; Mitlin, 1997a; Patel, 1999; Siembieda and Lopez-Moreno, 1999; Paulson and McAndrews, 1998; Bouman 1995; Johnson and Rogaly 1997; Merrett and Russell 1994; O'Reilly 1996).

[3] Pension asset-backed housing finance comes in two forms; pension loans and pension-secured (backed) loans (Sing, 2009). The pension loan are direct loans from the fund secured in two ways: over the member's ring-fenced accrued benefits in a DC scheme or effectively as a mortgage loan in favour of the fund over the property in question (Short *et al.*, 2009). Pension-secured loans on the other hand are designed to enable potential borrowers to collateralise their accumulated pension equity as security for a housing loan from a third party, mostly commercial banks (*ibid*). Pension-

Scaling issues, high transaction costs of small-scale lending and difficulties with extra-legal tenured collateral remain as some of the bottlenecks with these popular approaches to housing financing (Jones and Mitlin, 2002). Public provision of housing, in particular, has failed in many countries as a result of financial problems (Pugh, 1994; Munjee, 1994; Boleat, 1987; Buckley, 1996; Rahman, 1994); accountability and transparency issues (Rahman, 1994; Valenca, 1992); and inefficient interest rate controls (Munjee, 1994). Other challenges include; poor organisational record (Valenca, 1992); low rate of fund collection and loan enforcements (Buckley and Mayo, 1989; Malik, 1994; Rojas and Green, 1995); and political manipulations (Siembieda and Lopez, 2002; Okpala, 1994; Klak and Smith, 1993; Klak, 1993; Bond, 1990; Sirivardana, 1986).

Mortgage finance and its institutions, therefore, may contribute to economic development (Asabere, McGowan and Lee, 2016; Dickerson, 2009; Renaud, 2008; Jaffee and Renaud, 1996) by intermediating the mobilisation and the channelling of surplus funds from ultimate savers (investors) to potential homebuyers. A mortgage is an interest in real property held by a lender (mortgagee) and transferred by a borrower (mortgagor) as a security for a debt, usually a loan of money (Brueggeman and Fisher, 2008; Jacobus, Harwood and Chomura, 1999). Bible and Joiner (2009) record that mortgage market growth increased American's homeownership rate from 64% to 69% between 1993 and 2005. Over the same period, homeownership among low-income households and the first-time homebuyers market, in particular, increased by 12 million due to growth in sub-prime mortgage lending (Gramlich, 2007).

Consequently, mortgage finance systems could accelerate access to housing (Gevorgyan et al., 2006) and facilitate the efficient allocation of resources between housing and composite goods over the life cycle of households (Boamah, 2010; Joint Centre for Housing Studies, 2005). Positive externalities may result from the allocation of resources to their most productive uses (Levine, 2005; 2009; McKinnon, 2010; 1973; Goldsmith, 1969; Gurley and Shaw, 1955; Schumpeter, 1912; Bagehot, 1873). These externalities may influence the quality and tenure of housing consumption, and the effectiveness of the financial system (Akinwunmi, 2009). Dubel (2007) also shows that low levels of mortgage finance explain the increasing number of slum dwellers across Asia and Latin America; thus, highlighting the importance of mortgage finance to urban development.

Despite the growing need for housing because of rapid urbanisation (Tesfaye, 2007), well-functioning mortgage finance systems have hardly emerged in most developing countries. Therefore, market-based provision of housing is constrained (Warnock and Warnock, 2008; Quigley, 2000; Kim, 1997) although not a prerequisite to homeownership. Attempts to establish mortgage finance

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secured loans are popular in Brazil, Mexico, Singapore, South Africa, Botswana, Namibia, Zambia and Mauritius (Donkor-Hyiaman and Owusu-Manu, 2016; Afrane *et al.,* 2016; Phang, 2007; McCarthy *et al.,* 2002; Addae-Dapaah and Leong, 1996).

systems, mainly, secondary mortgage finance markets in some developing countries like Ghana, and Trinidad and Tobago via institutional transplants in the early 1990s barely succeeded (see Guttentag, 1998). Ghana's attempt at developing a mortgage finance market, however, dates back to the 1950s with the promulgation of the Building Societies Ordinance, 1955 (No. 30) and the subsequent establishment of the First Ghana Building Society in 1972. These efforts notwithstanding, mortgage depth (size), measured as a proportion of mortgage debt-to-GDP ratio, is less than 1%, which is also true for many developing economies (Centre for Affordable Housing Finance in Africa [henceforth CAHF], 2016).

The marked variation in the size of mortgage markets as shown in Figure 1.1 is not only between developed countries and developing economies, but also between countries at similar levels of development. For instance, mortgage debt-to-GDP ratio is less than 1% in developing economies like Zambia, Tanzania, and Algeria but over 50% in developed countries like Denmark, United Kingdom, United States, Switzerland, and the Netherlands. Between the United Kingdom and Italy, both developed countries, mortgage debt-to-GDP ratios are about 80% and 30% respectively (Badev et al., 2014). Aalbers (2007) for instance attributes mortgage underdevelopment in Italy to limited market liberalisation and adverse regulation of mortgage debt. The paper further submits that this outcome is also due to high-interest rates (about 25 – 30 in the 1980s) and weak foreclosure mechanisms as well as the availability of alternative pathways to homeownership. These alternatives include financing through social capital; i.e. family (Mingione and Nuvolati, 2003; Del Boca and Lusardi, 2003; Guiso and Japelli, 2002; Bernardi and Poggio, 2002; Nuvolati and Zajczyk, 1990; Tosi, 1987). Similarly, mortgage depth in developing economies is less than 1% in Senegal, 3% in Kenya, 12% in Mauritius and 33% in South Africa (CAHF, 2013). From the discussion above, it appears that a higher level of development is necessary but not a sufficient condition for mortgage deepening. Why these differences?

There is an extensive literature on housing finance in developing countries. This literature is largely descriptive and often country-specific (Warnock and Warnock, 2008; Renaud, 2009). The extant literature thus offers little in understanding comparative mortgage finance development and its determinants across a broad set of countries. This notwithstanding, there is a dearth of comparative empirical finance analysis of the relative systematic nature of the organization, structure and performance of mortgage finance markets, particularly in developing economies (Kutlukaya and Erol, 2015; Badev et al., 2014; Butler et al., 2009; Warnock and Warnock, 2008; Renaud, 2009). Therefore, when it comes to what to do in developing economies, many countries are left with the option of copying institutional arrangements from advanced economies, which have proven unsuccessful in many instances (see Renaud, 2009; Guttentag, 1998).

The extant literature attributes the low levels of mortgage finance in developing countries to affordability problems. Scholars believe that many prospective homeowners cannot afford mortgages to purchase the cheapest developer-built housing unit[4]. This outcome mainly results from low-income levels (see Nubi 2010; Renaud, 2009; Tomlinson, 2007; Okoroafor 2007; Erbas and Nothaft, 2005; Chiqiuer et al., 2004; Karley, 2003; 2002; Pugh, 1991; Boleat, 1987; Robinson, 1976). Mortgage markets in many developing countries thus appear to be a private club of the rich (Walley, 2013; De Soto, 2000). Consequently, although homeownership is the dominant form of housing tenure in many developing countries, mortgage finance is alien to most homeowners. Alternative financing mechanisms like self-help incremental housing finance and micro-housing finance among others prevail. It is however not clear whether the prevalence of these alternative financing mechanisms is the default outcome when mortgage finance is unaffordable or not.

Affordability issues also affect where financial infrastructure for lending emerges. Urban areas, which are often characterised by more significant pools of the economically active population and more substantial income levels, are thus supposed to attract more sophisticated financial infrastructure such as banks (Boleat and Coles, 1987). Banks and other financial institutions, make mortgage finance more accessible, which is fundamental to the growth of mortgage markets. Unfortunately, many developing countries are characterised by more extensive rural economies that lack the needed sophistication in financial infrastructure[5]. This condition is, however, changing in recent times due to increasing urbanisation levels and technologically driven financial inclusion. All of these are happening at a time when income levels are increasing and macroeconomic management is also improving.

Increasing economic growth for instance has spurred a burgeoning middle class with higher spending power in Africa in particular. The African Development Bank provides that Africa's middle class has risen to 313 million people (34% of the continent's population) in 2010 compared with 111 million people (26%) in 1980, 151 million (27%) in 1990 and 196 million (27%) in 2000. These people spend the equivalent of US$2 - US$20 a day (ibid.). However, the mortgage markets have not seen

[4] Low income was highlighted as the main constraint to mortgage finance development in developing countries, particularly in Sub-Saharan Africa (SSA) over a decade ago (Tomlinson, 2007; Karley, 2003; 2002). SSA was the only region where nearly 40% of its population lived below the international poverty threshold of US$1/day (UN-Habitat, 2005; World Bank, 2000). The CAHF (2012) and Walley (2009) further suggest that daily minimum wage has been below US$2.00 for most part of post-independence Africa. As a result, just about a quarter of households could afford a mortgage to purchase the cheapest developer-built housing units (Porteous, 2006).

[5] According to the World Bank Global Financial Development Indicators in 2012, there were only 15 bank accounts for every 100 adults in the median African country, while there are 42 outside Africa. There were 3.1 bank branches per 100,000 adults in Africa, while there are 9.6 outside Africa. Similarly, 16.5 per cent of adults in the median African country indicate that they have an account with a formal financial institution, while this share was 21 per cent outside Africa.

much progress. Higher incomes alone, although necessary, do not appear sufficient to guarantee bigger mortgage markets, as average mortgage debt-to-GDP ratio is less than 20% in a richer region like the Middle East (Hassler, 2011). A poorer country like South Africa has a relatively higher mortgage debt-to-GDP ratio of about 33% (CAHF, 2017). So, why do some rich countries have smaller mortgage finance markets?

Finance research in the last two decades highlights the role of differences in the quality of institutions – creditor rights and their enforcement (LLSV, 1997; 1998; Rajan and Zingales, 1998; Demirguc-Kunt and Maksimovic, 1998). According to Lizieri (2009), institutional factors like regulatory frameworks, political stability, transparency and governance affect capital. Although limited, comparative mortgage finance studies in the last decade confirm the importance of stronger institutions in creditor rights, credit information sharing (Warnock and Warnock, 2008; Badev et al., 2014; Kutlukaya and Erol, 2015), efficient enforcement, and mortgage registrations and transfer (Butler et al., 2009) to mortgage deepening. Despite their relevance, these institutions may affect mortgage deepening in countries differently depending on the problems they are designed to remedy (Djankov et al., 2007).

Moreover, while the significance of effective institutions in financial deepening is less debated, the sources of these institutions are of much controversy. A traditional view is the one provided by the Endowment theories of finance that suggest that much of the quality of institutions in developing countries is inherited. So, for example, a country's level of creditor rights and investor protection may be influenced by longstanding factors like the country's legal origin (La Porta et al. 1998; Glaeser and Shleifer 2003); geography (Acemoglu and Robinson, 2001); culture and ideology (Roe 2003; Allen 2005); or the main religion of its population (Stulz and Williamson 2003). These schools of thought emphasise the role of path dependence in the relationship between legal institutions and financial development.

Other Scholars suggest a dynamic relationship between legal institutions and the economy (see Milhaupt and Pistor, 2008; Pistor, 2009). The level of economic development has been found to be influential in determining institutional outcomes (Deakin and Pistor, 2012; Chang, 2011; Pistor, 2009; Milhaupt and Pistor, 2008; Glaeser et al., 2004; Alvarez, et al., 2000; Barro, 1999; North, 1991; Lipset, 1960). Chang (2011) for instance argues that institutions are expensive and it takes resources to establish and run them. By implication, wealthier countries have more resources to develop stronger institutions compared with poorer nations. Politics is another dynamic factor believed to sharp the quality of institutions and its link to financial development (Rajan and Zingales, 2003a; Perotti, 2013), but outside the mortgage finance literature. This is the case although the provision of housing finance is a primary political tool for many governments in developing countries. The matter of financial development in general and mortgage finance development in this context thus appears more complicated than our current understanding affords.

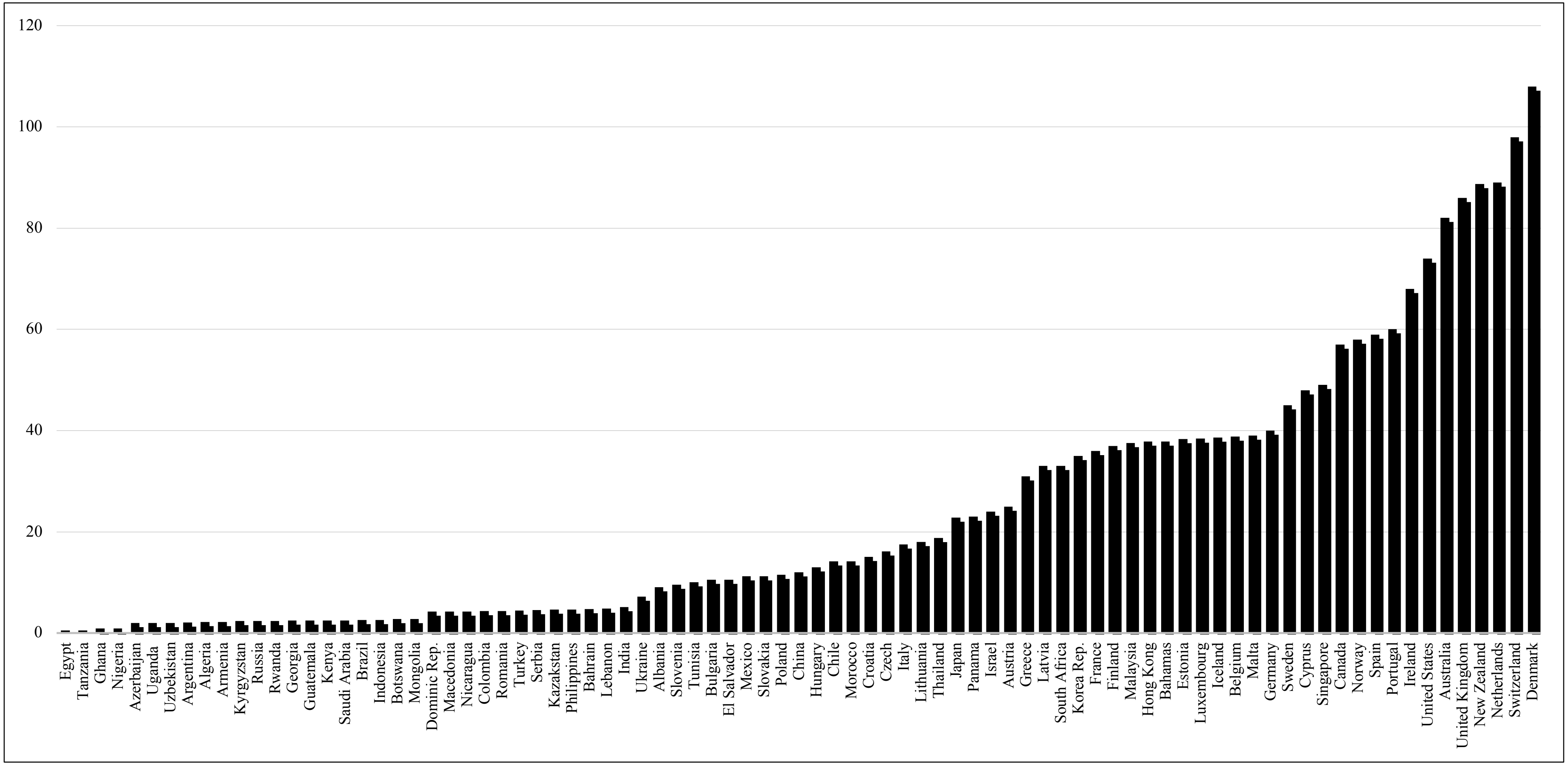

Figure 1. 1: Average Mortgage Credit/GDP Ratios (%) across Countries: 2006 - 2010
Source: Badev et al (2014)

1.1 Research Questions

The principal aim of this study is to investigate the extent to which mortgage markets enable housing finance and the reasons for wide variations in the size (depth) of mortgage markets across developing countries. In particular, the study analyses the determinants of mortgage depth and their relative importance. The following research questions were examined to achieve the aim of the study:

i. Why have some developing countries developed relatively deeper mortgage finance markets?
    a. Do credit information sharing frameworks and legal institutions - creditor (property) rights and law enforcement - matter in mortgage deepening?
    b. To what extent are credit information sharing frameworks and legal institutions relevant for mortgage deepening in relation to other factors?
    c. Based on the level of economic development, where in developing countries are credit information sharing frameworks and legal institutions of most relevance to mortgage deepening?
    d. What is the effect of the level of economic development, legal origins, religion, and politics on legal institutions and mortgage deepening in developing countries subsequently?

ii. What factors account for the low level of mortgage finance in Ghana?
    a. What is the relative importance of these factors to stakeholders?
    b. How do these factors affect the development of mortgage finance?

iii. Why does Ghana (like many developing countries) characterised by the favoured common law tradition have smaller mortgage finance market?
    a. Which laws have historically provided the institutional and regulatory framework for mortgage finance in Ghana before and after independence?
    b. What has been the actual character of mortgage laws in Ghana?
    c. How has the actual nature of mortgage laws varied from the expectation, according to the channels through which the common law tradition is expected to affect financial development – judicial independence, property rights protection, state dominance regarding ownership of financial institutions and market regulation.

For practical purposes of sampling for the cross-country study, we adopted the World Trade Organization's list of developing countries and further classify them into three income groups (i.e. low, middle, and high) based on gross national income (GNI) per capita according to the World Bank's country classification system – see Appendix A for full list of developing countries used.

1.2 Contributions of the Study

A study of this nature is essential to practitioners, academics and policymakers in many ways. The importance of mortgage finance in the financial intermediation process to lengthen financial contracts and smoothen consumption, particularly in developing countries whose financial systems are dominated by short-term financial agreements is receiving much attention (Beck et al., 2011). Moreover, the essence of mortgage finance within the socio-economic development agenda of most developing countries that are urbanising at rapid rates and thus require more housing resources cannot be over-emphasised. The incidence of increasing economic growth in developing countries and the establishment of primary or secondary mortgage finance markets in some of its countries — Morocco, Kenya, Nigeria — in recent times further strengthen the need for systematic analysis of these markets.

Moreover, mortgage finance has taken centre stage in research on financial system stability due to its link with recent banking crises in the United States, Spain and Ireland, which are considered deeper than other turmoils (Claessens et al., 2011). The structure of mortgage finance is, therefore, a critical transmission channel for monetary policy. The ability to understand, analyse, and diagnose the relative performance of mortgage finance systems is fundamental to reforming these markets. However, the limited comparative finance research on the systematic nature of structure, organization and performance of mortgage finance systems in developed economies, and less in developing countries (e.g. Badev et al., 2014; Butler et al., 2009; Warnock and Warnock, 2008; Roy, 2008; Wolswijk, 2006; La Cava and Simon, 2005; Renaud, 2009; Stephens, 2003; Diamond and Lea, 1992) means that market reforms are mainly informed by views that remain framed by the experiences of a few developed economies, especially the United States. Variation in contexts and the lack of country-specific evidence-based indicators may render such views inappropriate and may lead to misguided mortgage finance policies and strategies for developing countries as suggested by Guttentag (1998).

Additionally, this study provides a context-specific analysis of the concept of mortgage finance development, its determinants, and its link with many sectors, markets and institutions of developing countries. This contribution adds to the limited literature on the positive sides of mortgage finance expansion and policies that can expand access to housing finance (see Gerardi, Rosen and Willen, 2010). In particular, this work suggests that resolving the income constraint alone, although necessary, is not sufficient for mortgage deepening. Moreover, besides the legal institutional and credit information sharing frameworks as well as macroeconomic factors (Warnock and Warnock, 2008), demographic factors (like life expectancy, urbanisation levels, and the share of the economically active population) are vital factors. Other essential elements like well-located affordable housing; land administration efficiency; and informal institutional factors like culture may play critical roles in mortgage deepening.

This work is also linked to at least three strands of the extant literature. First is the literature on the determinants of financial development. This line of research is dominated by theories that emphasise the significance of efficient legal institutional frameworks for financial contracting (LLSV, 1998; 1997; Acemoglu et al. 2002; Stulz and Williamson, 2003). Emphasis is also placed on extensive credit information sharing frameworks (See Stiglitz and Weiss, 1981) and the role of collateral in mitigating agency costs such as adverse selection and moral hazards in credit markets (Bester, 1987; 1985; Besanko and Thakor, 1987; Chan and Thakor, 1987). Macroeconomic stability is also critical. Cross-country comparisons have established a robust empirical relationship between low inflation, secure and efficient legal systems, comprehensive accounting and auditing standards, and credit registries and broad and stable financial systems (e.g., Levine, Loayza and Beck, 2000; Boyd, Levine, and Smith, 2001, Djankov, McLiesh and Shleifer, 2007). Theory predicts that these elements should even be more critical for mortgage finance given its long-term nature, which is confirmed and extended in this study. For example, our findings suggest that in addition to legal rules relating to creditor rights protection (Warnock and Warnock, 2008), the quality of law as enforced is not only relevant but also more critical for mortgage deepening in developing countries.

The second strand of the literature this study adds to is the legal origins and financial development literature. It is believed that the roots of a country's legal tradition drive the quality of its private property rights systems (LLSV, 1998; 1997); the choice of credit information system (Djankov et al., 2007); and the level of financial development. While we believe that this theory may be of some theoretical and empirical essence, our findings indicate that the contingent role of legal origins on the relationship between private property rights and mortgage depth may not strictly hold in developing countries. Contrary to expectation, we find that having the much-favoured Common law tradition may not necessarily create or significantly stimulate a bigger mortgage finance market. There are many countries with the Common law tradition (i.e. Ghana, Egypt, Nigeria, etc.), where mortgage finance markets have barely emerged or are underdeveloped compared to their Civil law counterparts (i.e. Denmark, Netherlands, Sweden, etc.).

Instead, it is argued that the quality of private property rights systems is significantly influenced by politics, which in turn affects financial development (Rajan and Zingale, 1999; Pagano and Volpin, 2001; Girma and Shortland, 2007). The study therefore submits that the effectiveness of government and the control of corruption, which are both driven by politics are vitally crucial for strengthening property rights with ramifications for mortgage finance. The role of the political economy in the recent boom-and-bust cycles in housing in the U.S. has raised concerns (see Mian and Sufi, 2009; 2011; Mian, Sufi and Trebbi, 2010; Dell'Ariccia, Igan and Laeven, 2012) with implications for institutional development and mortgage finance in developing countries.

The study makes additional contribution to the recent literature on benchmarking financial systems (see Beck, Demirguc-Kunt and Levine, 2000; Beck and de la Torre, 2007; Beck et al., 2008; Beck, Demirguc-Kunt and Levine, 2010; World Economic Forum, 2012; World Bank, 2013; Barajas et al., 2013). The study shows that the development of private credit has strong positive implications for mortgage finance. Conventionally, private credit-GDP ratios are used to measure overall financial progress, which excluded housing/mortgage finance according to the World Bank Financial Development Database. The lack of a broad set of data on mortgage finance across countries has thus limited comparative analysis of mortgage finance. The strong correlation between private credit/GDP and mortgage credit /GDP as shown in this study suggests that private credit-GDP ratio could be a proxy for the level of mortgage finance development.

1.3 Outline of Thesis

The research consists of six chapters. Chapter one provides a broad overview of the housing finance problem in developing countries and variations in the size of some mortgage finance markets across countries. It also delves into the broad and guiding questions. A justification of how the research contributes to knowledge and a discussion of the limitations of the methodology as well as the outline of the thesis are provided. Chapter two discusses the research framework, which includes the underlying philosophy, approach and method adopted as well as the limitations of the research approach.

Chapter three provides a cross-country analysis of the determinants of mortgage depth. This chapter has six main sections. Following the introduction to the project is a review of the extant literature. This chapter is followed by a discussion of the two specific method used - multiple regression methods and panel regression method. Data used is then described and results of some initial assessments conducted presented. The primary empirical results are presented after that, followed by a ranking of the factors identified, and the last section concludes the study.

Chapter four provides a subnational analysis of stakeholder views on the low levels of mortgage finance in Ghana. Five sections make up this chapter. The results are presented in three main parts. These parts include a presentation of stakeholder views on the factors they perceive to be influencing mortgage finance; an examination of the relative importance of these factors; and a detailed discussion of the factors identified.

Chapter five presents and discusses the results of the institutional autopsies of the institutions that govern creditor and investor rights and the conditions underlying their development in Ghana. This chapter highlights the historical development of the legal and regulatory environment for mortgage finance in Ghana.

Chapter six summarises the main research findings, touching on three main issues. The first section discusses the story of mortgage deepening, both across countries and at the subnational level in Ghana. The second section makes an argument to the effect that political factors such as democratic maturity, corruption control, effective judicial independence, and government effectiveness significantly influence the quality of institutions and the depth of mortgage markets in developing economies.

CHAPTER TWO

RESEARCH FRAMEWORK: ISSUES AND METHODS

2.0 Introduction

The type of research question informs the research approach. This section provides a general discussion of the research philosophy, approach, design, and the limitations of the methodology.

2.1 Establishing Truth about Phenomena: Alternative Approaches

Governing every research process are philosophies that define important assumptions about how the social world is perceived and therefore how knowledge is established. These assumptions (ontology) of the real world, the nature of knowledge, its limits and how knowledge is gained (epistemology) (Blackburn, 1996) facilitate the breakdown of the complexity of reality (Guba and Lincoln, 1994; Wahyuni, 2012). The consideration of research questions forms a useful starting point in examining research philosophies. Research questions as a matter of good research, fundamentally drive the choice of appropriate methods (Abernethy et al. 1999; Merchant and Simons, 1986). These methods assume specific methodological perspectives that reflect an underlying philosophy.

Therefore, a researchers' ontological beliefs shape their epistemological views in respect of developing an understanding of reality and of the relationships between themselves (researcher) and the object or phenomenon researched. Traditionally, the nature of reality has been characterized as either materialistic or idealistic. Reality according to the materialistic view is objective, absolute and concrete. According to Bright (1991; p24), the materialistic worldview often referred to as the positivist or mechanistic view *"stipulates that the scientific method of the physical and natural sciences is equally applicable to the social sciences and the study of human behaviour".*

Positivism therefore seeks to understand social phenomenon through the lens of natural science (Healy and Perry, 2000), involving the systematic approach to asking and answering scientific questions by making observations, formulating hypothesis, collecting data and testing by way of experiments - scientific method (Cohen, Manion, and Morrison, 2013). Reality in a positivist world is common and singular, which can be perceived through the senses (Sarantakos, 2005) and exists independently of human thought and perception. This is naive realism from ontological perspective (Guba and Lincoln, 1998) and assumes objective external reality that can be observed and measured (Guba and Lincoln, 1994). The epistemology of positivism is dualist and value free (Johnson and Onwuegbuzie, 2004). Therefore, the positivist requirements for universal principles and generalizability (Williams and Wynn, Jr., 2008; Wahyuni, 2012) imply the use of quantitative methodology. The usefulness and precision of theories from this perspective is consequent on their explanatory and/or predictive power, with the latter considered paramount by instrumentalism – a sub-set of the positivism (see Friedman, 1953).

Idealism, on the contrary, rejects the notion that human behaviours are deterministic (Bisman, 2010). Instead, meanings of phenomena are historically, contextually and socially embedded. Thus, given differences in history, context and the social environment, the experiences of researchers are unique and significant, and may lead to variations in their interpretation and construction of reality. Consequently, this line of thought suggests that research is an interpretive act, and phenomena can best be studied naturalistically via qualitative methodology that is grounded in historical analysis, ethnography, critical and sociological theory and hermeneutics. This paradigm is however not free from divergent positions.

Flowing from the social construction and subjective characterization of reality, the constructivism school suggests the existence of multiple realities (Berger and Luckman, 1966). Therefore, research is both dialectic and humanistic. Highlighting historical explanations and discounting quantitative methods (Chua 1986a:20). Critical theory alternatively clothes researchers with transformative power supplied by historical and other mechanism to change the social order (Guba and Lincoln, 1994; Perry, Alizadeh and Riege, 1997). Some scholars view differences between critical theory and constructivism as mere 'shades of meaning' within which a singular 'critical interpretive' paradigm exists (see Ticehurst and Veal, 1999:20) contrary to the exclusion of critical perspective in interpretivism (see Covaleski, Dirsmith and Samuel, 1996). Therefore, whether framed by critical thinking or constructivism, reality construction in the interpretive research is often context specific and characterized by narrative and interpretive descriptions of events through grounded theory or political theory (Wiersma, 1995; Holmes, Hodgson and Nevell, 1991)

From the foregoing discussions, it can be concluded that an exclusive positivist or interpretivist approach cannot facilitate a comprehensive understanding of the goal and objectives of the current research as outlined in Chapter 1. For instance, given the external validity challenges of the dominant discourse – Legal origins theory – a contextual and historical analysis is required to understand the nature of the legal institution and its effects on mortgage finance development. A case study of Ghana involving a historical comparative analysis of the character of mortgage law in relation to the theoretical expectation of a country with English legal heritage is utilized in this regard. The revelatory findings from the case study, which contradicting existing theory required further confirmation from industry stakeholders. A survey involving interviews with experts was employed.

Consequently, this research benefits from multiple or mixed research methods, which is common in studies examining human or institutional behaviours in connection with, or as a reaction to the institutional setting (Bisman, 2010). Multiple methods in finance, institutional economics, accounting and business research is not novel (see Birnberg, Shields and Young, 1990; Easterby-Smith, Thorpe and Lowe, 1991). In this particular context, it reflects a research paradigm that enables the unravelling of research questions in ways that recognize the value of richness and context (qualitative) and yet retain elements of scientific rigour and the importance of generalizability (quantitative). Critical realism as a post-positivism paradigm provides these features, which serves as a means of overcoming the 'deadlock between scientific realism and anti-realism' (Sanchez, 1992:157). Its use in business-related fields, such as economics was common in the 1990s (see Hunt, 1990, 1992; Lawson, 1996; Healy and Perry, 1998, 2000; Fleetwood, 1999).

2.1.1 Critical Realism

Critical realism can be traced to two independent schools of thought - American critical realism (see Preston, 1965) and contemporary critical realism (Bhaskar, 1978; 1979; 1989; see also Collier, 1994). Critical realism as an alternative paradigm to positivism offers a three-tiered stratified ontology: real, actual and empirical (Sayer, 2000). The real refers to structures that are believed to exist but cannot be captured directly. The actual refers to the characteristics or mechanisms of structures and the empirical, refers to what can be experienced and measured.

The belief by Critical realists that reality is socially constructed means the phenomenon cannot be understood independently of the social actors involved in the knowledge derivation process. Therefore, understanding of the dynamic interrelationship between social actors, their setting and social structures is a prerequisite for constructing reality. The features of this dynamic interrelationships can be known in at least two ways; empirical observation and through the interpretation of the experience of the social actors within some particular context. Accordingly, the research process is not completely objective and value-free.

According to Brown (1999), critical realism may be viewed instead as a specific form of scientific realism in which the objects of science are distinct from the practice of science. Although constructivist interpretivism assumes multiple realities, critical realism concerns multiple perceptions about a single, mind-independent reality (Healy and Perry, 2000). These perceptions are not wholly discoverable or knowable and cannot perfectly reflect the reality (Guba, 1990) despite their plasticity (Churchland, 1979). Thus, reality and people's perceptions of reality vary.

Since critical realism concerns generative mechanisms (tendencies) (Bhaskar, 1978), the goal of critical realist research is the "identification and verification of underlying generative mechanisms" or structures that give rise to actions and events that can be experienced in the empirical domain (Wollin, 1996:1). Hence, derived generalizations from this perspective is considerably probabilistic, rather than an absolute truth. From a methodological perspective, both qualitative and quantitative methodologies are applicable (Healy and Perry, 2000) for investigating the fundamental mechanisms or structures influencing actions and events. Acceptable and relevant methods include naturalist methods like case studies and unstructured or semi-structured depth interviews as well as mathematical and statistical analyses (Perry, Alizadeh, and Riege 1997).

Critical realism representing a modified objectivist epistemological position occupies a middle ground between qualitative and quantitative methodologies, reflecting the roles of the individual and of context. Consequently, an elaborated view of issues and phenomena is achieved, characterized by richness; depth, density and the contextual embedding of data supplied by naturalistic methods without sacrificing the capacity and need for generalizations. Critical realist research may start with an initial inductive approach involving proposition and model development, clarification and modification, then followed by a deductive approach to unravel knowledge about reality (Bright, 1991). The reverse, which is the case for this study, is also true (ibid.).

2.2 Research Approach

Beside preference, data limitations previously prevented a comprehensive comparative analysis of mortgage finance development across a broad set of countries until the work by Warnock and Warnock (2008). As a result, previous studies have often been qualitative, focusing on one or more country case studies, which tend to be descriptive and highly informative but, lacking formal empirical analysis (ibid.; Renaud, 2009). For instance, the work by Boleat (1985) includes numerous country case studies. Diamond and Lea (1992) assess the efficiency of housing finance systems in five developed countries. Chiquier, Hassler, and Lea (2004) include case studies of eight emerging market economies. Low, Sebag-Montefiore, and Dübel (2003), and Wyman (2005) focus on eight countries in Europe. Hegedüs and Struyk (2005) present case studies on seven transition economies and Germany and tabulate housing finance statistics. Chiuri and Jappelli (2003) analyse 14 developed countries (with an emphasis on loan-to-value ratios). Allen, Chui, and Maddaloni (2004) include a short section on mortgage markets in 17 developed countries. Renaud (2009) consists of a presentation of data on 45 countries.

In recent times, many open databases established by the World Bank and other development institutions provide access to some cross-country data. However, data problems persist particularly in developing countries, thereby, making it difficult to account for all relevant factors across all states. Therefore, while taking advantage of the available cross-country data within a quantitative framework, our study attempts to remedy the data challenges with qualitative approaches as a supplement.

Hence, this study lends itself to methodological pluralism – multi-method research – that improves mono-method research through the use of multiple data, methods, methodologies, perspectives, standpoints, and paradigms (Tran, 2014; Tashakkori and Teddlie, 2010; Creswell et al., 2004). The mixed methods research is arguably a particular case of multi-method research. Three broad classes of mixed methods study can be identified: (1) Quantitatively driven approaches/designs, (2) Qualitatively driven approaches/designs, and (3) Interactive or equal status designs. This study adopts an equal status design (for detailed discussion, see Johnson, Onwuegbuzie, and Turner, 2007), which equally emphasises the interaction and integration of quantitative and qualitative data, methods, methodologies, and paradigms (Creamer, 2017). The concept of multiple validities legitimation[6] therefore applies (Johnson and Christensen, 2014; Onwuegbuzie and Johnson, 2006).

Denzin and Lincoln (2005) distinguish qualitative research from quantitative research based on its emphasis on "*processes and meanings that are not rigorously examined or measured.... regarding quantity, amount, intensity, or frequency*" (p. 10). Qualitative research as an approach primarily generates understanding through interpretive frameworks, that is, work that provides alternative interpretations of a phenomenon. Quantitative research, however, emphasises *"measurement and analysis of causal relationships between variables, not processes"* (Denzin and Lincoln, 2005:10). As a complement to quantitative research, qualitative research seeks to explore an issue partly because there is insufficient information about the condition of the issue. That is, *"variables cannot be easily identified, theories are not available to explain the behaviour of participants....and theories need to be developed"* (Cresswell, 1998:15-18). Therefore, qualitative studies recognise the need to develop detailed perspectives of the subject, where the researcher becomes an *"active learner who can tell the story from a participant's view rather than as an 'expert' who passes judgment on participants"* (Sarfoh, 2010). The qualitative aspect of this study, therefore, enables the researcher to *"build a complex holistic picture, analyses of words, reports detailed views of informants and conducts the study in a natural setting"* (ibid., p. 20), apart from aiding in triangulating the quantitative results (Moran-Ellis et al., 2006; Kelle, 2001; Campbell and Fiske, 1959).

2.2.1 Research Design

This thesis was executed in three related themes (papers) as shown in Figure 2.2. Under the 'three papers' model, a PhD thesis consists of three separate and publishable papers. The three papers are each free standing (in the sense that each can be read and understood independently) but should be

[6] Multiple validities legitimation "refers to the extent to which the mixed methods researcher successfully addresses and resolves all relevant validity types, including the quantitative and qualitative validity types as well as the mixed validity dimensions. In other words, the researcher must identify and address all of the relevant validity issues facing a particular research study. Successfully addressing the pertinent validity issues will help researchers produce the kinds of inferences and meta-inferences that should be made in mixed research"(Johnson and Christensen, 2014: 311).

on related themes. The three papers are normally preceded in the thesis by a short introduction to the overall topic, which may contain essential background information.

Three methods of analysis are therefore utilised. Using national units of analysis, project one, which is a global study, involved an empirical analysis of mortgage depth across 99 countries using the Multiple Regression technique. Private credit enabled a further analysis of factors across 116 developing countries over time using panel data modelling techniques. These analyses highlighted among other things the relative importance of many factors including institutions and policy frameworks within different economic settings. As opined by Ball (2006), institutions in some form or another may matter far more in some countries than others in offering valuable insights into understanding what sorts of institutional and market reforms may be needed. This may be due to variations in agency risks in lending across countries (see Milhaupt and Pistor, 2008). The relative importance of each variable is shown by estimating their respective contributions to the coefficient of determination (R-Squared and Adjusted R-Squared), when they are included last in the regression estimation.

Since knowing which institutions are relevant for different states, understanding the factors that drive changes in these institutions provide an equally if not more critical insight into what factors to reform and how to design such reforms. An aspect of project one of the study is thus dedicated to examining the influences of suggested factors like the income level of a country (see Deakin and Pistor, 2012; Chang, 2011, Glaeser et al., 2004; Alvarez, et al., 2000; Barro, 1999; Lipset, 1960), legal traditions (see La Porta, et al., 1997; 1998); culture (see Stulz and Williamson, 2003); and politics (see Milhaupt and Pistor, 2008) on institutional development and mortgage deepening.

The analyses provided in the cross-country study utilised secondary data derived from various World Bank databases. These databases include the World Bank Financial Development Database; World Bank Doing Business Database; World Bank Financial Inclusion Database; and the World Bank Development Indicators Database. Mortgage credit data was derived from Badev et al. (2014) and annual housing finance reports published by the CAHF. Chapter three presents the details of the specific datasets – institutional, macroeconomic, and demographics, among others - collected from these databases. The panel data analysis was predominantly used. Panel data analysis is a statistical method, widely used in social science and econometrics to analyse two-dimensional (typically cross sectional and longitudinal) panel data (Maddala, 2001). This is data collected over time and over the same individuals and then a regression is run over these two dimensions.

While the cross-country model enables an understanding of some of the factors affecting the development of mortgage finance in developing countries, the model is far from explaining national variations well and that the institutional and legal origin variables added only marginally to the degree of explanation. However, strong institutions and the common law tradition in particular is held as the major determinant of financial development (LLSV, 1998; 1999). Therefore, a second theme consisting of two in-depth country-specific studies analyzes the relatively low level of mortgage financing in Ghana. Two different data sources – interviews of stakeholders and legal documents – and two different methods – Grounded theory and the Institutional Autopsy (Case study approach) – respectively were employed to complement our understanding of the factors affecting the development of mortgage finance in Ghana in addition to those that emerged from the cross-country study. The importance of employing additional data sources and analyses is two-prompt. First, it aided in the triangulation and validation of the results obtained across countries in project one. Second, it fostered a greater understanding of the peculiar factors and processes affecting the development of mortgage finance in Ghana, some of which were not captured in the cross-country study. These additional factors are also likely to be generalised to other developing countries.

The choice of Ghana as a case study is principally because it is both uniqueness and typical of the developing countries referred to earlier in the thesis. The exact circumstances of Ghana as a country and in terms of its attempts to develop a well-functioning mortgage market is unique. Apart from that, it is typical of the many developing countries that question the applicability of the legal origins theory. That is, common law countries that have either developed or not developed stronger property rights but their mortgage market is underdeveloped. Given its Common law tradition, Ghana is expected to have inherited a stronger creditor (property) rights system and consequently developed a better financial market, including a well-functioning mortgage finance market (in absolute terms at least). In its current form, creditor rights in Ghana are stronger than that of South Africa, a country with the same legal origin, but the latter's mortgage market is about thirty times bigger than the former. This suggests that stronger creditor rights alone may not be sufficient condition for deepening mortgage markets. Ghana, therefore, presents compelling evidence for further investigation.

However, strong creditor rights protections have been weak until recently contrary to the legal origins theory. As will be argued later in chapter five, the historical development of mortgage institutions as revealed by our institutional autopsies shows that the character of mortgage law depicts a contradiction of what Ghana should have inherited or exhibited as a result of adopting the common law. These include; secure property rights and effective enforcement; judicial independence; and limited government involvement in the financial market, both regarding ownership of banks and the regulation of the market.

Beyond bearing similarities in economic characteristics with many developing countries, Ghana has a long history of government trying to raise mortgage finance but with less success. These attempts are reflected in the establishment of regulatory and institutional frameworks for its operation since the 1950s. These regulatory and institutional frameworks are comprehensively discussed in chapter five. Recent efforts to develop mortgage finance in Ghana include the improvement of the creditor and investor rights regime through the passage of three key legislation. They are the Home Mortgage Finance Act (Act 770); Credit Reporting Act, 2007 (Act 726); and the Borrowers and Lenders Act, 2008 (Act 773). To the extent that this institutional and regulatory reforms are true, the cross-country models presented in Chapter three do not explain the evolution of Ghana's mortgage market, justifying the in-depth case study analysis.

In part one of the second theme, interviews were conducted with 34 respondents from different stakeholder groups covering the mortgage, banking and finance, insurance, and real estate industries as well as academia. These respondents had considerable experience in mortgage finance either as employees of mortgage and real estate firms or as mortgage finance researchers. The main objective pursued here was to investigate from a stakeholder perspective, the factors that affect mortgage finance development in Ghana. The sub-objectives were to estimate the relative importance of the factors identified by stakeholders and examine how they affect mortgage finance development. The Grounded theory approach was instrumental in analysing the interview data. This approach allowed the construction of a theory from the data, which was compared with the cross-country results. Grounded theory is a systematic methodology in the social sciences involving the construction of theory through methodic gathering and analysis of data (Martin and Turner, 1986; Strauss and Juliet, 1994). Grounded theory is a research methodology which operates inductively, in contrast to the hypothetico-deductive approach. Section 4.2.1 – 4.2.3 of chapter three provides a detailed discussion of the Grounded Theory method.

Narrowing down further on the institutional factors, the second part of the second theme focused on the effect of the historical development of the legal and regulatory framework on the development of mortgage finance in Ghana. The central aim is to investigate why mortgage finance is low even though creditor and investor rights are currently moderately protected in a country that is endowed with what is often regarded as a favourable legal tradition – common law. The main objective here was to investigate from a historical perspective, how the transmission mechanisms through which the common law is expected to influence financial development (see LLS, 2008; La Porta et al., 1997; 1998) has fared in the case of Ghana.

The second objective was to examine the fundamental causes of the quality of the institutional setting for mortgage financing in Ghana. The study highlights how government policy and the rule of law influenced institutional outcomes like private property rights protection, judiciary independence, government involvement in the finance market, both regarding regulation and ownership of financial institutions. These objectives were achieved by analysing mortgage-related legal documents and national development policy documents using the Institutional Autopsy approach developed by Milhaupt and Pistor (2008). The Institutional Autopsy approach is generally a case study method, which is an important strategy for learning about the operation of the institutional dimensions of a complex system with the hope of gaining insights into its strengths and vulnerabilities (ibid.). Chapter five provides details of the method. Figure 2.2 summarizes the research design, showing the relationship between the two main projects and their sub-projects.

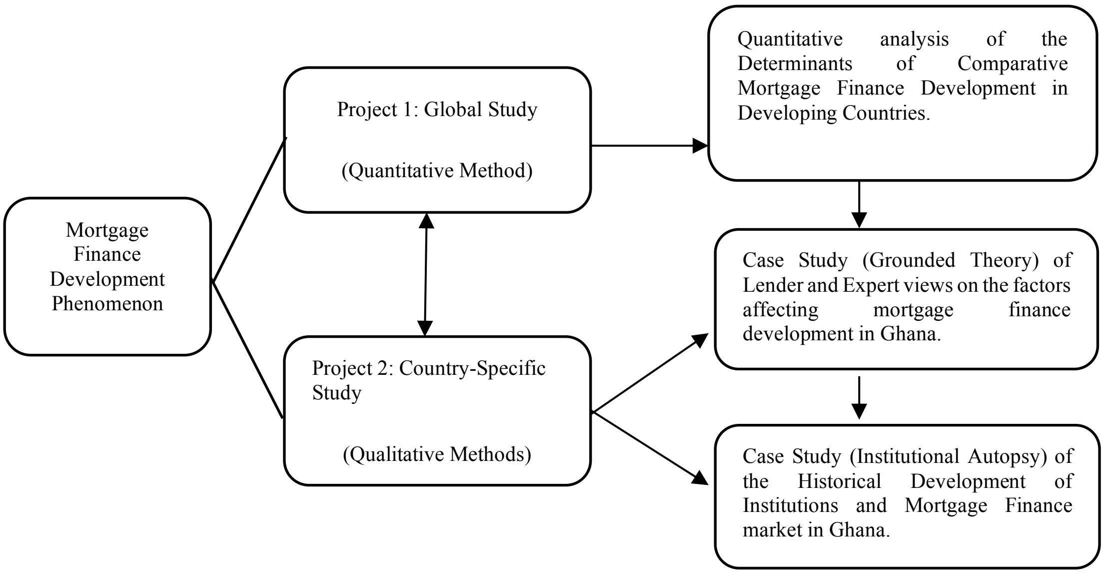

Figure 2.2: Research Framework
Source: Researcher's Construct

2.2.2 Dealing with Potential Methodological and Epistemological Contentions

Despite the increasing calls for and advocates of methodological pluralism in research designs, combining qualitative and quantitative strategies can present a number of distinct philosophical and logistical challenges, including whether and how to integrate findings that may initially appear to conflict (Jones, 2007). For example, at the heart of the paradigm war is the idea of the superiority of one method over another and the incompatibility of different approaches (Johnson and Onwuegbuzie, 2004; Howe, 1988). However, the incompatibility thesis from hindsight is perhaps more ephemeral than real (Bergman, 2008), for if social phenomena are complex and knowing is subject to multiple realities, how could one philosophical paradigm be considered best or even superior? Indeed, how could any one method fully capture such complexity? It seems reasonable and practical to conclude that some issues are best captured by adopting multiple mental models and employing different methodological approaches as we have done in this study.

Therefore, the real challenge for this multi-method study was how to integrate findings in ways that increase validity and consistency. Methodological scholars (for reviews, see Denzin, 2010; Kelle, 2001) have attempted to resolve the challenges involved in integrating in the design, analysis, and interpretation of mixed methods studies (e.g. Bazeley, 2009; Denzin, 2010). In one commonly used form, the use of multiple methods producing similar results suggests that the phenomenon of interest has been more accurately measured than it could have been using a single method (Moran-Ellis et al., 2006). Despite the seemingly discrepant nature of some findings with implications for consistency of findings in this study, discrepant data was treated in a postmodern sense of triangulation as a complementarity. Besides, discrepancies are not necessarily contradictory. Rather, the whole exercise may be considered as a productive enterprise (Fielding, 2009) that integrates multiple perspectives (Kelle, 2001) and extends the scope, depth, and richness of the understanding of complex social issues (Fielding, 2009: 429).

As will be observed later, the findings from the qualitative analysis provided in chapter four support some of the findings from the comparative quantitative analysis in chapter three. This is true especially for the legal institutional factors, credit information frameworks, and macroeconomic variable - inflation. For example, it is observed that despite the relevance of stronger creditor property rights (legal rules) for mortgage and financial deepening, the enforcement of these rights is more significant and economically important both across countries and in Ghana – case study. This is a credit to the use of multiple methods and implies increased validity about the role of these legal institutional factors in mortgage and financial deepening. It could be observed that the qualitative findings reveal additional factors that limit the development of mortgage finance in Ghana. This revelation may be considered a discrepancy but as argued earlier, it is complementary and not necessarily contradictory.

Besides, the multiple methods deployed here is used to examine different research questions despite similarities in some of them. For instance, the entire study seeks to analyse the determinants of mortgage finance development, which is defined as multi-dimensional. The cross-country study in the next chapter is limited to the size (depth) dimension of mortgage finance development due to data availability. The qualitative study in chapter three was designed to look beyond mortgage depth to examine the broader concept of mortgage finance development in the Ghanaian context. Therefore, while the qualitative findings are comparable to some extent to the quantitative findings, they are not exactly answering the same questions. Even if the same phenomenon is examined by the multiple methods, they are used at different levels of analysis. While the quantitative technique is used at the cross-country level, the qualitative methods are used for sub-national level analysis. Therefore, given data constraints and the need to answer different questions at different levels of analysis, the multiple method approach is the most appropriate for this study.

2.3 Limitations of Study

There are three main weaknesses in the research methodology, which are discussed below.

2.3.1 Comparative Time Series and Institutional Data Issues

A basis for this study was the lack of comparative analysis of mortgage finance development across a broad set of countries over time. To a large extent, this is so because of the lack of a comprehensive set of time series data on mortgage finance, especially on developing economies. This study faced similar challenges. However, we devise a solution by using private credit data as a proxy for mortgage credit in addition to making use of cross-sectional mortgage data. This variable to no small extent works for this study. This outcome is because although private credit as measured by the World Bank excludes housing credit, there is a strong correlation (about 82%) between them as shown in Figure 5.3 in chapter three. This result suggests that private credit is likely to be a good proxy for mortgage depth. However, this also means that there are some aspects of mortgage depth that we are unable to model quantitatively in this study. Therefore, to understand mortgage finance development within specific contexts and device appropriate policies and strategies to promote growth, case studies would be necessary complements. It is this need to improve the accuracy of our understanding of the issues surrounding mortgage finance beyond the general cross-cutting factors that necessitated the two case studies in Ghana.

The other issue with data relates to the limited variability of the institutional measures used. It is standard requirement that time series analysis utilises data that varies preferably every period. Most institutional datasets, however, may fall short of this requirement but not entirely. That is, the data changes but may not in every period. This observation is yet not surprising because the behaviour of these datasets converges with theory. One feature of institutions, whether good or bad, is their stability (Milhaupt and Pistor, 2008). Institutions evolve incrementally, connecting the past with the present and the future (ibid.). Therefore, institutions vary but often in the long run (North, 1991).

2.3.2 Sample of Respondents

The first part of the second project uses stakeholder perceptions of the determinants of mortgage finance in Ghana. Ideally, it would have been more appropriate to capture the opinions of all existing financial institutions, mainly, commercial banks since the study focuses on the supply-side of the market, where financial institutions are the players. Notably, it would have been interesting to know why some banks (HFC Bank, Fidelity Bank, Stanbic Bank, Ecobank, Ghana Home Loans) are offering mortgages as commercial products while others (most) are not. The differences in reasons supporting the participation or non-participation of a bank in the mortgage market could add invaluable insights to our understanding of how different players respond to the same or different economic incentives. It was, however, difficult to access some of the top officials of these banks who are responsible for such strategic decisions. As a result, more than one respondent was selected from some financial institutions. The advantage, however, is that a number of these respondents have had experience working in some of the inaccessible banks. For instance, one of the respondents from the Ghana Commercial Bank was formerly with Barclays Bank. Moreover, some of the academics and researchers interviewed had previously interacted with these institutions formally or informally and thus have a broad understanding of the issues. Therefore, given these previous interactions, their responses may have captured some of the inaccessible information.

2.3.3 Limited Generalizability of Case Study Findings

A comparative case study (a country with another country) could have enhanced our understanding of why two or more states with the same legal origin could have mortgage markets at different levels of development. Resource constraints however rendered this desire impossible. However, some of the case study findings could be generalised. For example, we found that the level of corruption and government effectiveness affect the quality of property rights and mortgage finance subsequently and simultaneously in Ghana. Setting this relationship as a hypothesis, we notice from the cross-country study that estimates of corruption control and government effectiveness are suitable replacements for the quality of property rights protection (see Table 3.15).

CHAPTER THREE

CROSS–COUNTRY DETERMINANTS OF MORTGAGE FINANCE DEVELOPMENT IN DEVELOPING ECONOMIES

3.0 Introduction

The previous chapter introduced the research framework consisting of the research philosophy, general research approach and design, made up of the analysis of three interrelated themes. This part of the study is focused on the first theme of the study, which aims to provide a comparative empirical analysis of mortgage finance development in developing countries. This study is important because of the dearth of comparative analysis of the organization, structure and performance of mortgage finance markets, particularly in developing economies (see Warnock and Warnock, 2008; Butler et al., 2009; Renaud, 2009; Badev et al., 2014; Kutlukaya and Erol, 2015). Precisely, this chapter deals with the first research question and its sub questions set in the previous chapter by examining the following research objectives; to:

i. Examine the determinants of the relative depth of mortgage finance markets across developing countries;
    a. Examine the relevance of credit information sharing frameworks and legal institutional factors - creditor (property) rights and law enforcement - in mortgage deepening;
    b. Examine the relative importance of credit information sharing frameworks and legal institutional factors in mortgage deepening;
    c. Based on the level of economic development, analyse where in developing countries improvements in the credit information sharing frameworks and legal institutional factors matter most;
    d. Analyse the effect of the level of economic development, legal origins, religion, and politics on legal institutions and mortgage deepening subsequently in developing countries.

The rest of this chapter is presented in six sections. Section 3.1 attempts to define mortgage finance development and section 3.2 reviews the extant literature. Section 3.3 discusses the research method and defines the data used and their sources. This section is followed by a presentation of the empirical strategies in Section 3.4. Section 3.5 describes the data and results of initial assessments. The primary empirical results are presented in Sections 3.6. The results of robustness checks and a ranking of regression factors are presented in sections 3.7 and 3.8 respectively. The study is concluded in Section 3.9.

3.1 What is Mortgage Finance Development?

There is no universal definition of mortgage finance development. Becerra, Cavallo and Scartascini (2012) however define financial development as the existence of broad and stable credit markets in an economy. This definition focuses on credit markets, which is just one dimension of financial development and ignores equity markets. The Financial Development Report (2012) also defines financial development as the factors, policies, and institutions that lead to efficient financial intermediation and markets, as well as in-depth and broad access to capital and financial services. Partly in line with this definition, four benchmarking frameworks identify four main dimensions of financial development: depth (size), access (inclusion), efficiency and stability (see Beck, Demirguc-Kunt and Levine, 2000; Beck, Demirguc-Kunt and Levine, 2010; World Economic Forum, 2012; World Bank, 2013). Based on these definitions and aspects of financial development, we define mortgage finance development as the existence of policies and institutions that promote efficient intermediation of exchange (between savers and ultimate users of funds) and development of markets that facilitate access, deepens and improves the efficiency and stability of mortgage markets. The following are some of the factors that might affect the development of mortgage finance in developing countries.

3.2 What Factors Affect Mortgage Finance Development? A Literature Review

Many factors have been identified by the descriptive housing finance literature as affecting the development of mortgage finance in developing countries. This section provides a review of some of the key factors identified by the literature.

3.2.1 Macroeconomic Factors

3.2.1.1 Income, Affordability, and Demand Issues

Mortgage finance markets are likely to grow in environments where prospective borrowers have stable streams of adequate income and secured jobs (Nyasulu and Cloete, 2007). Some scholars therefore consider affordability problems[7] caused by low-income levels as the primary constraint to mortgage demand and hence, mortgage finance development in developing countries. About a decade ago, less than a quarter of households could afford a mortgage to purchase the cheapest developer-built housing units (Porteous, 2006). The mortgage market in many developing countries thus appeared to be a private club of the rich (Walley, 2013; De Soto, 2000).

In Africa for instance, low, uncertain and irregular incomes are associated with the high levels of informal employment (Chimutsa, 2013). This situation makes the lender's task of verifying incomes

[7] Various reports suggested that daily minimum wage has been below US$2.00 for most part of post-independence Africa (CAHF, 2012; UN-Habitat, 2005; World Bank, 2000; United Nations Development Programme, 2006:269; International Labour Organization, 2007; Handley et al 2009: 1).

and assets difficult with ramification for default tendencies (Haughwout et al., 2008). Therefore, financial institutions prefer to avoid default to foreclosure upon default (Giliberto and Houston, 1989), due to the high cost involved (Riddiough and Wyatt, 1994). As a result, access to long-term housing finance is usually restricted by lenders (Beltas, 2008). They do this by imposing stringent underwriting criteria to reduce foreclosure risk (Nang et al., 2003) or charging borrowers with high-interest rates commensurately for posing a higher risk.

Melzer (2005) shows that the majority of households in South Africa (often inhabitants of the townships) for instance are priced out of the mortgage market, as they are charged rates between 40% and 67% per annum by Specialist Housing Lenders. Like many developing countries, high inflation rates partly account for these high mortgage rates (Tomlinson, 2007). Moss and Pillay (2000) also suggest that among households unable to access institutional finance, 41% could not obtain mortgage loans mainly because of their low-incomes. Low-income households were as a result redlined as posing a higher commercial lending risk (Tomlinson, 1997). Hence, banks have had little to do with the low-income segments of the population (Tomlinson, 2007; Rust, 2002).

However, developing countries are often thought of as poor countries. De Soto (2000) for example has been criticised for categorization and stereotyping of concepts and what terms represent. He seems to consider the poor as an undifferentiated class (Fernandes, 2002; Benda-Beckmann, 2003; Bromley, 2004; Cousins *et al.*, 2005; Sjaastad and Cousins, 2008; Obeng-Odoom, 2013). This classification would have been true about three decades ago and beyond. However, in recent times, increasing economic growth is spurring a burgeoning middle class with higher spending power as indicated earlier. Affordability is improving and yet mortgage market development has been slow, even in many prosperous countries in the Middle East (Hassler, 2011). This suggest that higher incomes although necessary, is not sufficient for mortgage demand or result in a broader mortgage market. There is, therefore, more to mortgage finance development than just income – institutional factors for example may be relevant as found in Europe (Kutlukaya and Erol, 2015).

3.2.1.2 Price Stability, Savings and Long-Term Fund Mobilization

Price instability is believed to be a persistent challenge to mortgage finance development in many developing countries (Butler et al., 2009; Akuffo, 2009; Walley, 2009; Warnock and Warnock, 2008; Tomlinson, 2007; Sanders, 2005; Renaud, 2004; Agénor, et al., 2000; Pugh, 1994a; 1994b; 1994c; 1991). The volatility of macroeconomic indicators like inflation rates, interest rates and exchange rates distort price signals, heighten the perceived default risk, and increase risk premium on borrowing rates for private firms and individuals (Adjasi et al., 2008; Benita and Lauterbach, 2004; Agénor and Aizenman, 1998). Higher borrowing rates decrease affordability level with negative ramifications for housing finance and housing markets consequently (Boamah, 2011; 2010; Renaud, 2009; Richupan, 1999).

Many scholars have documented the debilitating effects of high and volatile interest rates, resulting inter alia from high inflation rates and financial intermediation inefficiencies (Diamond and Lea, 1993; 1992) on ability of banks to engage in mortgage finance delivery in Ghana, Nigeria, Kenya, Tanzania, Uganda, South Africa and Zambia (Afrane, et al., 2014; Bank of Ghana, 2010; Gardner, 2007; Asare and Whitehead, 2006; Tomlinson, 2006; Merrill and Tomlinson, 2006; Merrill, et al., 2005; Nabutola, 2004; Porteous and Naicker, 2003; Ajanlekoko, 2001). Boamah (2011) and Asare and Whitehead (2006) have also shown how constant exchange rate fluctuations have limited affordability and mortgage originations in Ghana consequently, as a result of the 'dollarization' of the mortgage and property market.

Price instability also limits long-term investment and the propensity to save, which is considered as the stimulus of most formal housing finance systems, even in developed economies[8] (Chiquier, Hassler and Lea, 2004). A lack of savings constrains the ability of prospective borrowers to afford mortgage down payments[9] (Warnock and Warnock, 2008; Chimutsa, 2013; Martin, 2008; Mathema, 2006a; 2006b; Pugh, 1994a; 1994b; 1992; 1991). Coupled with crowding out effects of government borrowings (Laubach, 2009; Friedman, 1978), the ability of banks to mobilize long-term domestic funds for mortgage finance has been severely limited (Boko, 2011; Nubi 2010; Butler et al. 2009; Akuffo, 2009; Walley, 2009; Mutero, 2008; Kalema and Kayiira, 2008; Okoroafor, 2007; Tomlinson, 2007; Erbas and Nothaft 2005; Chiqiuer et al., 2004; Pugh, 1991; Robinson, 1976). As a result, many banks (usually relying on short-term demand deposit) have become portfolio lenders, supplying mortgage finance only when it fits very well in their portfolios (Karley, 2003), which limits scaling (Walley, 2013).

3.2.2 Urbanization and Financial Inclusion

High economic growth patterns in developing countries are also associated with high urbanisation[10] (Deloitte, 2013). Elsewhere, high urbanisation is linked to mortgage finance development (Tesfaye, 2007; Boleat and Coles, 1987) in two main ways. First, higher house prices in urban areas make housing expensive and thus increase the need for long-term financing (Hansenn, 2013). Second, urban areas are more likely to develop the needed financial infrastructure for mortgage finance than rural areas (Boleat and Coles, 1987), primarily due to higher levels of demand for financial services and banking availability (Barajas, 2013). Hence, as urban populations grow and urbanisation accelerates, the need for mortgage finance grows (Renaud, 1999; Chiquier and Lea, 2009). Fostering

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[8] For instance, it facilitated the development of building societies in Europe (Walley, 2013).

[9] Down payment is capital or equity contributions made by borrowers towards a mortgage investment, usually as a basic requirement and an indicator of commitment (Sanders, 2005) and how much the borrower has at risk should the investment fail (Ferguson, 2004).

[10] It is estimated that about 3.42 billion people are in the world now living in urban areas than in rural areas - 3.41 billion - since the year 2009 (United Nations, 2010; Chiquier and Lea, 2009; Boleat and Walley, 2008). It is therefore projected that, two-thirds of the world population will be living in urban centres by the end of 2030 (United Nations, 2010).

greater financial intermediation would thus be beneficial to income growth and security, savings mobilisation and mortgage finance consequently (World Bank, 1993; UNCHS, 1991; Buckley et al., 1988). Increasing urbanisation in developing countries is thus expected to promote mortgage demand and stimulate mortgage finance development.

3.2.3 Institutional and Regulatory Frameworks

Institutions like property rights are relevant to the allocation of resources in the real world that is characterised by imperfect information, transaction costs and wealth effects (Coarse, 1960). In credit markets, institutions of credit and collateral are particularly important. These institutions are discussed below. However, before that, an exposition on the nature of institutions and their functions in credit markets is vital for understanding their importance. A widely accepted definition is the one provided by North (1991), who defines institutions as "the rules of the game in a society or, more formally, the humanly devised constraints that shape human interaction [and which] in consequence structure incentives in human exchange, whether political, social, or economic" (North, 1990:3). In North's submission, institutions also include organisations in some form as they embody explicit and implicit rules. Kasper and Streit (1998: 30) also defined institutions as "rules of human interaction that constrain possibly opportunistic and erratic individual behaviour, thereby making human behaviour more predictable and thus facilitating the division of labour and wealth creation".

As a social rule system, its force to structure incentives and constrain human behaviour comes from both the formal and informal rules (Hodgson, 2001; Searle, 1995; Mirowski, 1986), with the latter developing and reinforcing the former, which is habitually and culturally enforced over many years. There are different forms of institutions; some are highly codified, usually written and specific like a legal system of rules, and others unwritten but orally transmitted. Moreover, some institutions like markets (Rosenbaum, 2001) and organisations (North, 1991) are unified and purposeful, while others like enforced behavioural codes may be diffused and less structured.

In financial markets, institutions complement contracts in allocating value and risks across transacting parties and create order to reduce uncertainty in exchange (North, 1991: 3–4; 1995: 23; Williamson, 1985). They thus structure economic incentives to cooperate as well as to invest (Perotti, 2013). Institutions emerge based on transaction costs resulting from incomplete information and limited mental capacity by which to process information (North, 1995: 18). Therefore, the quality of legal institutions and credit information frameworks are believed to influence credit rationing and financial development consequently.

3.2.3.1 Credit Information and Credit Rationing in Imperfect Markets

Unlike standard markets, where the price mechanism allocates resources, borrowers in credit markets are sometimes rationed — unable to obtain a loan or the size of the loan is reduced — even if they are willing to pay a higher price - interest rate (Williamson (1987; Gale and Hellwig, 1985; Hess, 1984; Vendall, 1984; Jaffee and Russell, 1984; Stiglitz and Weiss, 1981; Eaton and Gersovitz, 1981; Keeton, 1979; Townsend, 1979; Jaffee and Russell, 1976). According to Allen (1983), credit rationing occurs due to the two-stage nature of the transaction. Payment for goods in many markets is instantaneous and this eliminates the future risk of default; else, sellers may refuse to deliver the goods and services. In contrast, lenders provide credit to borrowers in expectation of future receipts of payment, which expose lenders to two types of risk – adverse selection[11] and moral hazard[12] (Stiglitz and Weiss, 1981). In this case, a higher interest rate as a screening device could lead to more defaults, which subsequently reduces lenders' expected returns. Therefore, lenders discriminate among borrowers to mitigate defaults by refusing to lend to observationally indistinguishable borrowers[13].

Credit information sharing among lenders thus promote financial development in many ways theoretically (Vercammen, 1995; Pagano and Jappelli, 1993; Diamond, 1989; Macleod and Malcomson, 1988; Holmstrom, 1982). Subsequent empirical work supports this view. Brown, Jappelli, and Pagano (2009) found that the cost of credit declines and credit become more available as information sharing increases between lenders (see also Love and Mylenko, 2003; Pagano and Jappelli, 1993). Padilla and Pagano (1997) show that the exchange of information among lenders tends to homogenise the information on which they base their lending decisions. This exercise increases the incentive for borrowers to perform by reducing the information-based monopoly of lenders through increased competition. Serving as an effective discipline device[14] (Padilla and Pagano, 2000; Vercammen, 1995; Diamond; 1989; Phelps, 1949:442), credit information sharing increases borrowers' incentive to perform (Brown and Zehnder, 2007; Jappelli and Pagano (2002) and thus mitigates moral hazards and reduces interest rates[15] (Cremer, 1995; Diamond, 1991).

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[11] Adverse selection occurs when borrowers have private information about the distribution of returns from their investment. In this asymmetric information case, high-quality borrowers are forced to cross-subsidize low-quality borrowers because lenders cannot distinguish among the various types when a contract is being negotiated. Adverse selection has pronounced distributional effects and may also result in an inefficient level of aggregate investment (e.g. Stiglitz and Weiss, 1981; DeMeza and Webb, 1987, 1988; Innes, 1991).

[12] Moral hazard arises when lenders of capital cannot directly monitor the actions of borrowers and thus are not able to condition the financing agreement on such actions. Because of the moral hazard, borrowers have an incentive to choose excessively risky projects (e.g. Myers 1977; Stiglitz and Weiss, 1981) or to supply too little effort to their investment (e.g. Brander and Spencer, 1989; Innes, 1990; 1993).

[13] People that lenders cannot distinguish as either bad or good risk because of a lack of credit information on them. In other words, there is insufficient credit information on them to enable credit screening and efficient allocation of credit. In other words, there is insufficient credit information on them to enable credit screening and efficient allocation of credit.

[14] In some cases, lenders share only data about past defaults (and black information'), while in others they also pool data on the characteristics of borrowers (and white information', such as business sector, overall debt exposure, family and job history, criminal records, etc.).

[15] It can lower the informational rents that banks extract from borrower's quality the overall interest burden is not reduced further due to perfect ex-ante competition. As a result, when banks share

Besides being a leading indicator of financial development in developing countries via public credit registers and private credit bureaus (Luoto, McIntosh and Wydick, 2007; Djankov et al., 2007), credit information sharing is associated with better prediction of individual loan defaults at lower costs (Luoto et al., 2007; Powell et al., 2004; Barron and Staten, 2003; Kallberg and Udell, 2003), and enhanced loan repayment (Brown and Zehnder, 2007; Jappelli and Pagano, 2002). Moreover, Brown, Jappelli, and Pagano's (2009) work suggest the possibility of substitution effects between credit information sharing and creditor rights protection. They observe that credit information sharing improves credit access and availability in economies with weak creditor rights protections and does not in countries with reliable creditor rights protection. The cross-sectional estimates also suggest a strong correlation between information sharing and opaque firms than transparent ones.

From the above discussion, credit information sharing is fundamental to financial development. However, credit information sharing in financial markets is imperfect ex-ante in all countries. There is, therefore, a need to further protect creditors ex-post if lending is to take place. The concept of collateral and creditor property rights protection is thus essential, as discussed subsequently.

3.2.3.2 Collateral, Legal Institutions and Credit Development

Proponents of the power theories of credit argue that when lenders have more power to protect themselves ex-post by easily forcing repayment or grabbing collateral upon an event of credit default through secure property rights, they are more willing to extend credit (Townsend, 1979; Aghion and Bolton, 1992; Hart and Moore, 1994; 1998). Two strands of literature are relevant in this regard. Concerning collateral theory, adverse selection models (see Bester, 1985; Chan and Kanatas, 1985; Besanko and Thakor, 1987a;b) predict that safer borrowers within an observationally same risk pool pledge more collateral. Likewise, moral hazard models (see Chan and Thakor, 1987; Boot and Thakor, 1994) are based on the premise that posting collateral improves borrowers' incentives to work hard, thus, reducing the likelihood of default. However, Boot, Thakor, and Udell (1991) combine observable borrower quality with moral hazard and find those observably riskier borrowers may pledge more collateral, and thus collateralised loans may be riskier ex-post.

Since mortgage finance is inherently collateralised, the provision of collateral per se is neither the best indicator of borrower quality nor it guarantees the ability to enforce the collateral ex-post upon borrower default. Reasonably, it would be expected that the ownership, tenure and security of the

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information about their customers'. This eliminates the incentive effect analyzed in Padilla and Pagano (1997), which operates by reducing the hold-up problem due to banks' monopoly power. However, if the exchange of information is limited to defaults, it can still sharpen borrowers' incentives. To avoid being pooled with lower-grade borrowers by outside banks, high-quality borrowers will try harder to avoid default. In response to this lower default rate, they will be charged a lower interest rate. See also sharp (1990) on informational rent.

collateral as embodied in a good title and the right of creditors to foreclose the collateral efficiently - within reasonable time and cost - in the event of borrower default is what incentivises a creditor to lend. In this regard, theories that focus on the relationship between the legal institutional framework (property rights) of a country and its financial development are more relevant in explaining the role of collateral in credit development.

A closer look at the extant literature will reveal that financial development is higher in countries with perceived better legal systems and stronger creditor (property) rights (Djankov et al.; 2007; LLSV, 1997; 1998; Rajan and Zingales, 1998; Demirguc-Kunt and Maksimovic, 1998). In this line of literature, the unique contributions of legal rules (de jure) on the one hand and law enforcement (de facto) on the other are often distinguished. Improvements in the statutory provisions relating to creditor rights protection are associated with an increase in private credit (Musacchio, 2008; Djankov et al., 2007; Gamboa-Cavazos and Schneider, 2007; Haselmann et al., 2006). Warnock and Warnock (2008) found stronger creditor rights as significant determinants of mortgage depth.

As far as enforcement is concerned, better court systems have been found to benefit creditor rights protection and financial development (Safavian and Sharma, 2007; Visaria, 2006; Jappelli et al., 2005). While law enforcement is considered more important than legal rules for creditor protection and financial development (Milhaupt and Pistor, 2008; Djankov et al., 2006; La Porta et al., 2004; Djankov et al., 2003b; Pistor, 2000), Djankov et al (2008) and La Porta et al (2006) find that both legal rules and the quality of contract enforcement matter. In mortgage markets, Butler et al. (2009) note that foreclosure enforcement makes mortgage laws useful. However, many studies indicate that mortgage registration and foreclosure are problematic in many developing countries (Boamah, 2012; Everhart, 2006).

Therefore, the introduction of specialised tribunals in India reduced loan repayment delinquency by about 3 to 10 percentage points (Visaria, 2006). According to Safavian and Sharma (2007), debt markets benefit from creditor rights protection in countries with better court systems and vice versa. Similarly, Jappelli et al. (2005) find a scarcity of credit in Italian regions with more extensive trials and more substantial backlogs of pending lawsuits.

3.2.3.3 Land Markets and Institutions

De Soto's (2000) dead capital thesis is of particular relevance to mortgage finance. The quality of formal property registration systems, he argues, explains access to capital through the ability of borrowers to collateralised property for loans. This view accounts for variations in mortgage finance between developed countries and developing countries. Toulmin (2009) asserts that many attempts at setting up formal land registration systems have not worked well. The study reveals that only 2–3% of the land is held by written title in West Africa, mainly in a few major cities. Apart from the fact that most lands are not registered, the land administration system that facilitates registration and titling are inefficient, often characterised by cumbersome, lengthy, and costly processes (Akuffo, 2009; Allen and Johnson, 2008). The high cost of land titling in effect excludes disadvantaged groups from acquiring titles to the lands their homes are built on (De Soto, 2000). For instance, the African region, Sub-Saharan Africa in particular, recorded the highest cost and most extended duration for registering property in 2005 (World Bank, 2005 as cited in Toulmin, 2009).

Therefore, banks were unwilling to accept land as collateral, for which foreclosure is difficult, costly, or forbidden by law or custom (Donkor-Hyiaman and Ghartey, 2017; Boamah, 2011; Bruce, 1986). Other studies have however refuted De Soto's claims. Domeher and Abdullai (2012) for instance argue that some financial institutions in Ghana accept unregistered lands as collateral (Domeher, Abdullai, and Yeboah, 2016). Other scholars contend that efficient registration, titling and foreclosure are unlikely to produce the desired outcomes in the absence of active land and property markets that enable the economic value of the collateral property to be realised (Toulmin, 2009; Bruce and Dorner, 1982; Simpson, 1976). This observation is because land titling by itself will not create an active land and property market (Atwood, 1990). Moreover, social customs and political imperatives in some countries render foreclosure virtually impossible, such that, irrespective of having a perfect legal title, collateral has little value (Noronha, 1985).

Where land and property markets exist, they are highly informal (Mahama and Antwi, 2006) and characterised by information asymmetry, disputes (Onoma, 2010), thin volumes of trades and illiquidity. Long holding periods may prevail if transaction costs are high (see Collet, Lizieri and Ward, 2003[16]) that may not be suitable for the short-term nature of forced sales of collateral property triggered by loan defaults. Therefore, more than a decade ago, there were not enough land sales markets to assure banks of their ability to dispose of land or property that are foreclosed (Brasselle et al., 2002; Sjaastad and Bromley, 1997; Atwood, 1990). This outcome has subsequently limited the development of mortgage finance.

3.2.4 Culture and Financial Illiteracy

Mortgage finance underdevelopment in developing countries is also reflected in indicators of use of formal finance by enterprises and households. High financial exclusion has contributed to high financial illiteracy and vice versa (Mutero, 2010; Tomlinson, 2007). Nevertheless, even if financial inclusion and literacy were high, demand for mortgage finance may be constrained by a culture of debt aversion (Teye et al., 2015; Walley, 2013; Sander, 2005). However, a culture of debt aversion does not mean that people in developing countries do not borrow. Surveys by Akuffo (2009) and Mathema (2006) in Ghana, and Mathema (2007) in Tanzania show that people borrow. However,

[16] On timing and the holding periods of institutional real estate.

those in the informal sector predominantly borrow from informal moneylenders who can relatively mitigate the asymmetric information problem that may exist between borrowers and lenders through relationship lending - dealing with long-time clients who usually live in the same village (Lensink, 1996). For this category of borrowers mentioned above, the purpose of borrowing is not to purchase a house, but to expand their businesses and then use profits to build a house (Akuffo, 2009; Mathema, 2006). These choices reinforce the importance of the capital structure of housing investments to many people in developing countries.

Consequently, the vast informal sectors in many developing economies exacerbate information asymmetries about the creditworthiness of households (Boamah, 2010). The limited use of the formal financial system may thus have constrained the emergence of the needed credit information systems on a significant scale (Everhart, 2006). Therefore, there may be a lack of appropriate risk management infrastructure (Tomlinson, 2007; Pugh, 1994; 1991) to help in mitigating adverse selection risk and moral hazard risk in lending.

3.2.5 Market Structure

Well-functioning mortgage markets are often composed of two sub-markets: primary and secondary markets. The primary market is usually the first point of call for most borrowers. It is made up of primary lenders, often thrifts, savings and loans associations, and commercial banks that carry out the functions of originating, underwriting, servicing, and mortgage portfolio risk management (Pollock, 1994). Primary lenders can either transfer these loans to third parties in the complementary secondary mortgage finance market by selling or collateralising – securitisation - them to raise additional funds or keep the loans in their portfolio until maturity. In the latter case, the primary lender operates as a portfolio lender and may be running a traditional system of mortgage financing, called the Depository System or the Portfolio Lending System in the United States (Lea, 1998). The primary essence of a secondary mortgage finance market then is to supply liquidity to the primary lenders, which enables them to expand lending offerings (Karley and Whitehead, 2002; Lea, 1998). In the process, investment opportunities are increased and risks allocated to investors who can better manage them (Guttentag, 1988).

In emerging markets and developing countries, mortgage finance markets are nascent and often limited to primary lending activities (Lea, 1994). Primarily due to liquidity problems, most mortgage lenders in developing countries are often portfolio lenders (Karley, 2003) who only lend when it fits well into their loan portfolios. Secondary mortgage market activity like securitisation is limited and relatively unsophisticated in the few countries such as South Africa where such structures exist. Morocco and Tunisia have developed legal frameworks for securitisation (in 1999 and 2001, respectively). The actual usage of the instrument, however, has been limited: three transactions occurred in Morocco (US$150 million total) and two in Tunisia (US$80 million), by a single institution in both cases (Walley, 2013). In the absence of securitisation, liquidity facilities (Pollock, 1994) have emerged in some countries like Gabon, Rwanda, Ghana, India, Tanzania, South Africa, Nigeria, Egypt, and Mail. They are usually linked to quasi-governmental entities that can raise funds in the capital markets almost as cheaply as their governments. However, this system only addresses the funding component of secondary market development; which means that other functions like; loan origination, underwriting, servicing, and credit enhancement remain bundled in the originating institutions.

All of these factors, one way or the other, limit or promote the development of mortgage finance. The next section details out the specific methods used for this study.

3.3 Research Method

Following previous literature (see Warnock and Warnock, 2008; Badev et al., 2014; Kutlukaya and Erol, 2015), the study uses the multiple regression and panel regression methods. One of the attractions of regression analysis is that it enables the creation of a mathematical model that can be used for predicting or explaining the relationship among variables (at least one independent and one dependent variable) across a broad set of observations (Green, 2010). The multiple regression method is applied to estimate the determinants of average mortgage depth and average private credit depth covering the 2006 – 2010 period across countries.

The panel regression method (see Wooldridge, 2009) is used to take advantage of the time series dimension of the private credit data (2006 – 2013) for the same kind of analyses. Depending on the belief of a correlation or otherwise between unobserved heterogeneity and the explanatory variables, the fixed effects estimator or the random effects estimator may be appropriate (Green, 2010; Wooldridge, 2009; Hsiao, 2003; Hausman and Taylor, 1981; Hausman, 1978; Mundlak, 1978). As informed by the Hausman test (Hausman, 1978), the random effects panel data model is chosen over the fixed effects model. The random effects estimator assumes no correlation between unobserved heterogeneity and the explanatory variables (Hsiao, 2003).

The advantages of the random effects model are many (Bell and Jones, 2015; Nwakuya and Ijomah, 2017). First, it offers greater flexibility and allows for the modelling of time-invariant factors. This is particularly important for this study when it comes to modelling the effect of path depending factors like legal origins and religion (culture) on mortgage deepening and financial deepening. Second, the random effects model allows for the generalization of inferences beyond the sample used in the model. Third, it has the ability to model context, including variables that are only measured at the higher level, and fourth, it is a solution to the endogeneity problem.

The use of the panel modelling technique for institutional analysis where institutions are theorized as path dependent may pose theoretical challenges. One feature of institutions, whether good or bad, is their stability (Milhaupt and Pistor, 2008). Institutions evolve incrementally, connecting the past with the present and the future (ibid.). Therefore, institutions vary but often in the long run (North, 1991). In practice, it is desired in panel data analysis for data to change for each period (especially when the time dimension exceeds two years). Thus, many studies have deployed the panel modelling technique in analysing the effect of institutions on mortgage deepening (Badev et al., 2014; Kutlukaya and Enrol, 2015); financial development (Baltagi, Demetriades, and Law, 2007; Kacho and Dahmardeh, 2017); economic growth and entrepreneurship (Buterin, Škare, and Buterin, 2017; Olbrecht, 2016; Aparicio, et al., 2016; Thennakoon and Dissanayake, 2015; Vieira, MacDonald, and Damasceno, 2012), foreign direct investment (Kurul and Yalta, 2017).

In addition, apart from the legal origins and cultural (religion) variables, which are treated as dummy variables, the institutional data used is variable. This is so because of the very nature of the variables – composite – and there is a chance of any one changing in one year. For example, the Strength of Legal Rights Index has 12 components and measures the degree to which collateral and bankruptcy laws protect the rights of borrowers and lenders and thus facilitate lending. Although this variable does not change in each year for all the countries, there are observable changes between 2006 and 2013.

3.3.1 Data: Construction, Definition and Sources

A balanced longitudinal dataset was constructed for 116 developing countries for the period 2006 – 2013 based on the World Trade Organisation's list of developing countries. The choice of these countries in the list is based entirely on data availability for a sufficiently long period. Most of the countries have a population over 1.5 million, except countries including Tonga, Vanuatu, Surinam, St Vincent and Grenadines, St Lucia, Solomon Island, Sao Tome and Principe, Samoa, Mauritius, Guyana, Grenada, Fiji, Djibouti, Dominica, Cape Verde, and Belize. The 116 countries are made up of 22 low-income countries, 73 middle-income countries, and 21 high-income countries, using the World Bank's country classification system based on gross national income (GNI) per capita. The GNI per capita for the three income groups are: low-income = US$1,005 or less; middle-income = US$1,006 – US$12,235; and high-income = US$12,236 and above. It is important to note that our middle-income group comprises two sub-groups: lower middle-income and upper-middle-income countries.

Twenty of the low-income countries are in Africa while two are in Latin America and the Caribbean (LAC). The majority of the middle-income countries are LAC countries (23), followed by Africa (16), Asia (14), Middle East and North Africa (MENA) (11) and Europe (9). Most of the high-income countries are LAC countries (8) compared with only one country in Asia. MENA countries constitute the second highest number of high-income countries (6), followed by Europe (4) and then Africa (2) as presented in Table 3.1. The full list of countries is presented in Appendix A.

Table 3.1: Regions and Income Levels of Countries Matrix

Region/Income Level	Low-Income	Middle-Income	High-Income	Total
Middle East & North Africa (MENA)	0	11	6	17
Asia	0	14	1	15
Africa	20	16	2	38
Latin America & Caribbean (LAC)	2	23	8	33
Europe	0	9	4	13
Total	22	73	21	116

Researchers have often focused on the ratio of private credit-to-GDP in measuring financial development. Recent examples include Arcand, Berkes, and Panizza (2011), who used that ratio to examine whether there is too much finance; and Cavallo and Scartascini (2012) who pointed out that many countries still have too little finance. The ratio of private credit-to-GDP is readily available, and credit is an essential type of financial service. This ratio captures the size of a bank's loan book relative to economic output, but it says nothing about the components of the financial sector beyond banks, about the quality of financial services, the efficiency of the financial industry, and its stability. Researchers, therefore, lack solid cross-country, time series measures of the degree to which financial systems perform their functions.

Time series data limitation is even worse when it comes to mortgage finance, particularly in developing countries. We use two indicators to measure the depth of the housing finance sector. First, a cross-section of mortgage debt-to-GDP for the period 2006-2010 is used to gauge the depth of mortgage markets in 99 countries directly. It is worth noting that this mortgage depth dataset includes 23 developed countries; only captures formal mortgage loans from regulated financial institutions; and excludes loans from unregulated microfinance institutions and informal sources as well as loans or grants from government organisations outside the controlled financial system.

Second, private (domestic) credit-to-GDP ratio expressed as a percentage is used as a proxy for mortgage depth. Besides increasing the sample size, this variable indirectly enables us to examine mortgage depth over time due to the strong positive association with mortgage depth. For instance, Beck et al. (2012) found that housing credit increases as the share of the level of private credit-to-GDP increases. More recently, Badev et al. (2014) reported an R-squared of 60.5% between average private credit/GDP ratios and average mortgage debt/GDP ratios. Our cross-sectional dataset for 99 countries returns an R-squared of 82.3% (see Appendix B) and a correlation coefficient of 91% between average private credit/GDP ratios and average mortgage credit/GDP ratios for the 2006-2010 period at 1% significance level. This result corroborates earlier findings (mentioned above) that countries with deeper private credit markets are more likely to develop bigger mortgage finance markets. The appropriateness of private credit as a proxy for mortgage credit lies in the extent to which their determinants are similar. As will be shown later, there are similar cross-country determinants of mortgage debt/GDP ratios and private credit/GDP ratios. Lastly, the actual time series mortgage credit ratio dataset, which is largely unbalanced for developing countries, was inaccessible.

The full set of variables used is defined with their sources in Table 3.2. The variables were derived from four primary sources. These sources included; (1) World Bank Doing Business Database, (2) World Development Indicators Database, (3) World Finance Development Database, and (4) World Governance Indicators Database. These are popular open source databases hosted by the World Bank and widely used in the literature.

Table 3.2: Definitions and Sources of Variables

Construct	Variable	Code	Expected Sign	Definition and Source
Mortgage Depth	Mortgage Credit/GDP (%)	MDEP		Outstanding Mortgage debt provided by the private sector. It excludes loans provided by government and micro-finance institutions. Badev et al (2014) constructed the data from surveys. Sources: European Credit Research Institute (ECRI), central banks, financial regulatory/oversight agencies, or housing finance agencies and through direct contact with housing finance officials during World Bank/International Finance Corporation (IFC) country missions or from field conferences or presentations.
	Private Credit/GDP (%)	PRDEP		Private credit is domestic credit (financial resources) such as loans, purchases of non-equity securities, and trade credits and other accounts receivable provided to the private sector by financial corporations that establish a claim for repayment. The variable is expressed as a percentage of GDP. Source: World Bank Financial Development Database.
Legal Institutional Quality (Legal Rules)	Getting Credit	LEGQAL	ß > 0	The World Bank Doing Business 'Getting Credit' variable is a composite index consisting of the *strength of legal rights index* and the *depth of credit information index*. The strength of legal rights index has 12 components and measures the degree to which collateral and bankruptcy laws protect the rights of borrowers and lenders and thus facilitate lending. The depth of credit information index has 8 features of the credit bureau or credit registry and measures rules and practices affecting the coverage, scope and accessibility of credit information, and thus the extent of credit information sharing in a country. The index also assesses the availability and operation of a collateral registry or registration institution for security interests granted

				over movable property by incorporated and non-incorporated entities, and whether they are unified geographically through an electronic database indexed by debtors' names. Source: World Bank Doing Business Database.
	Strength of Legal Rights Index		ß > 0	The strength of legal rights index has 12 components and measures the degree to which collateral and bankruptcy laws protect the rights of borrowers and lenders and thus facilitate lending.
Mortgage Foreclosure Efficiency	Contract Enforcement Procedures	ENFPRO	ß < 0	These are the procedures compiled for each economy that traces the chronology of a commercial dispute before the relevant court. Procedural steps include steps to file and serve the case, steps to assign the case to a judge, steps for trial and judgment and steps necessary to enforce the judgment. This has implication for transaction costs associated with mortgage foreclosure. Source: World Bank Doing Business Database.
Credit Information Sharing Efficiency	Private Credit Bureau	PRBUR	ß > 0	The number of individuals and firms listed in a private credit bureaus database as of January 1, 2015, with information on their borrowing history within the past five years, plus the number of individuals and firms that have had no borrowing history in the past five years but for which a lender requested a credit report from the bureau in the period between January 1, 2014, and January 1, 2015. Source: World Bank Doing Business Database.
	Public Credit Register Coverage	PUREG	ß > 0	The number of individuals and firms listed in a public credit register database as of January 1, 2015, with information on their borrowing history within the past five years, plus the number of individuals and firms that have had no borrowing history in the past five years but for which a lender requested a credit report from the bureau in the period between January 1, 2014, and January 1, 2015. Source: World Bank Doing Business Database.
Income Level (Level of Economic Development)	GDP Per Capita	GDPCAP	ß > 0	GDP per capita is gross domestic product divided by midyear population. Data are in current U.S. dollars. Source: World Bank Development Indicators Database.
	Income Level Dummies	LOWINC MIDINC HIGINC	ß < 0 ß > 0 ß > 0	Dummy variable = 1 if country is low-income and 0 if not; 1 if middle-income and 0 if not; and 1 if high-income and 0 if not; based on the World Bank's classification of countries according to GNI per capita.
Price Stability	Inflation Volatility	INFVOL	ß < 0	Inflation volatility estimated as the variance of each year's inflation rate from its mean over the 8-year (2006 – 2013) sample period. An alternative measure used was the standard deviation for the cross-sectional study.
				This is the cost necessary for a business (the buyer) to purchase a property from another business (the seller) and to transfer the

Land Administration Efficiency	Property Registration & Transfer Cost	PROREG	uncertain	property title to the buyer's name so that the buyer can use the property for expanding its business, use the property as collateral in taking new loans or, if necessary, sell the property to another business. Source: World Bank Doing Business Database.
Efficiency of Planning Institutions	Ease of Construction Permitting	CONST	ß > 0	This index measures procedures, time, cost, and the quality of building regulation and its implementation. It accounts for the efficiency in obtaining and submitting all relevant project-specific documents (for example, building plans, site maps and certificates of urbanism) to the authorities; hiring external third-party supervisors, engineers or inspectors (if necessary); obtaining all necessary clearances, licenses, permits and certificates; submitting all required notifications; and requesting and receiving all necessary inspections (unless completed by a private, third-party inspector). Source: World Bank Doing Business Database.
Financial Access/ Inclusion	Bank branches per 100,000 adults	BKBRAN	ß > 0	The number of bank branches per 100,000 adults. Source: World Bank Financial Development Database.
Urbanization	Urban Population (%)	URBPOP	ß < 0	Urban population refers to people living in urban areas as defined by national statistical offices. It is expressed as the percentage of the urban population as a proportion of total population. Source: World Bank Development Indicators Database.
Long-Term Funds Availability	Life expectancy	LIFEXP	ß < 0	Life expectancy at birth is the number of years a new born infant would live if prevailing patterns of mortality at the time of its birth were to stay the same throughout its life. Source: World Bank Development Indicators Database.
Potential Market Size	Population (15 - 64 Years)	POPUL	ß < 0	Total population between the ages 15 to 64 is the number of people who could potentially be economically active. This is based on the de facto definition of population, which counts all residents regardless of legal status or citizenship - except for refugees not permanently settled in the country of asylum, who are generally considered part of the population of the country of origin. Source: World Bank Development Indicators Database.
Legal Heritage	Legal Origin: Common Law Civil Law Socialist Law	COMLW CIVLW SOC	ß < 0	Dummy variable = 1 if the legal origin of country is Common law and 0 if not; and 1 if Civil law and 0 if not. Source: Djankov et al (2007).
Culture	Religion: Orthodox Islam Protestant Catholic Buddhist	ORTH ISLM PROT CATH BUDD	ß > 0	Dummy variable = 1 if dominated by Protestants and 0 if not; 1 if dominated by Catholics and 0 if not; 1 if dominated by Muslims and 0 if not; 1 if dominated by Buddhist and 0 if not. Source: Stulz and Williamson (2003).

Politics	Estimate of Control Corruption	CORR	ß > 0	Control of corruption is the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as ''capture'' of the state by elites and private interests. Higher values indicate better control of corruption. Sourced: World Governance Indicators database, constructed by Kaufmann, Kraay and Mastruzzi (2010).
	Estimate of Government Effectivenes s	GOVEFF	ß > 0	Government effectiveness is the quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies. Sourced: World Governance Indicators database, constructed by Kaufmann, Kraay and Mastruzzi (2010).

The rest of this chapter develops the empirical strategy and examines the empirical results. The first two empirical strategies explore the broader set of factors affecting mortgage deepening. The rest focus on the legal institutional factors and the effect of their interactions with other factors.

3.4 Empirical Strategy

The study explores both the cross-section and time series dimensions of the phenomenon. The multiple regression technique is used to explore the cross-section dimension of the dataset using the following model:

$$\text{Model 1: } ln(\text{MDEP or PRCRD}) = \beta_0 + \beta_1 ln(\text{LEGQAL}) + \beta_2 ln(\text{ENFPRO}) + \beta_3 ln(\text{PRBUR or PUREG}) + \beta_4 ln(\text{INFL}) + \beta_5 ln(\text{INFVOL}) + \beta_6 ln(\text{CONST}) + \beta_7 ln(\text{PROREG}) + \beta_8 ln(\text{LIFEXP}) + \beta_9 ln(\text{URBPOP}) + \beta_{10} ln(\text{BKBRAN}) + \beta_{11} ln(\text{POP1564}) + \varepsilon_i$$

Where β_0 to β_{11} are the elasticities of the explanatory variables and ε_i is the error term. The variable codes used are defined in Table 2.2. The panel data estimation technique was subsequently adopted to assess the time series dimensions of the phenomenon. The specific models are presented below. The following baseline model is estimated without the credit information sharing and legal institutional variables:

$$\text{Model 2: } ln(\text{PRCRD}_{it}) = \beta_0 + \beta_1 ln(\text{INFVOL}_{it}) + \beta_2 ln(\text{CONST}_{2t}) + \beta_3 ln(\text{PROREG}_{3t}) + \beta_4 ln(\text{LIFEXP}_{4t}) + \beta_5 ln(\text{URBPOP}_{5t}) + \beta_6 ln(\text{BKBRAN}_{6t}) + \beta_7 ln(\text{POP1564}_{7t}) + \textstyle\sum_{t=1-t} \delta_t T_t + U_{it} + \varepsilon_{it}$$

Where T_t and δ_t are time dummies and their coefficients respectively, and U_{it} and ε_{it} are the between-country error and within-country error terms respectively. Besides the factors in the baseline model, one of the objectives of the study was to estimate the relative importance of credit information sharing framework and legal institutions to mortgage deepening. The following models were therefore estimated in a stepwise manner to show the gain due to these institutional factors. It is important to note that the approach used here is stepwise to the extent that explanatory factors are introduced sequentially to highlight their individual contributions to the overall model, and not by any formal tests.

Model 3a: $ln(\text{PRCRD}_{it}) = \text{Model } 2 + \beta_8 ln(\text{LEGQAL}_{8t})$;

Model 3b: $ln(\text{PRCRD}_{it}) = \text{Model } 2 + \beta_8 ln(\text{ENFPRO}_{8t})$;

Model 3c: $ln(\text{PRCRD}_{it}) = \text{Model } 2 + \beta_8 ln(\text{LEGQAL}_{8t}) + \beta_8 ln(\text{ENFPRO}_{9t})$;

Model 3d: $ln(\text{PRCRD}_{it}) = \text{Model } 2 + \beta_8 ln(\text{LEGQAL}_{8t}) + \beta_8 ln(\text{ENFPRO}_{9t}) + \beta_{10} ln(\text{PRBUR}_{10t})$;

Model 3e: $ln(\text{PRCRD}_{it}) = \text{Model } 2 + \beta_8 ln(\text{LEGQAL}_{8t}) + \beta_8 ln(\text{ENFPRO}_{9t}) + \beta_{10} ln(\text{PUREG}_{10t})$;

Model 3f: $ln(\text{PRCRD}_{it}) = \text{Model } 2 + \beta_8 ln(\text{LEGQAL}_{8t}) + \beta_8 ln(\text{ENFPRO}_{9t}) + \beta_{10} ln\sum(\text{PRBUR}_{10t}, \text{PUREG}_{10t})$;

Model 3g: $ln(\text{PRCRD}_{it}) = \text{Model } 2 + \beta_8 ln(\text{LEGQAL}_{8t}) + \beta_8 ln(\text{ENFPRO}_{9t}) + \beta_{10} ln(\text{PRBUR}_{10t}) + \beta_{11} ln(\text{PUREG}_{11t})$.

Additional models including various combinations of credit information sharing with the quality of creditor rights protection or the efficiency of contract enforcement were also estimated. The study further examined the fundamental sources of variations in these institutional factors and how they affect mortgage deepening. The extant literature highlights legal origins, culture and income levels as the root causes of institutional quality. This objective motivated the estimation of three main models – 3, 4, and 5. The structure of the models is the same but for the root cause of institutional quality. An interaction between the legal and credit information sharing institutional variables and income levels results in the following model, using low-income countries as the reference:

Model 4a: $ln(\text{PRCRD}_{it}) = \text{Model 3g} + \beta_{12} ln(\text{MIDINC}_{12t}) + \beta_{13} ln(\text{HIGINC}_{13t}) + \beta_{14}(ln\text{LEGQAL*MIDINC}_{14t}) + \beta_{15}(ln\text{LEGQAL*HIGINC}_{15t})$

Model 4b: $ln(\text{PRCRD}_{it}) = \text{Model 3g} + \beta_{12} ln(\text{MIDINC}_{12t}) + \beta_{13} ln(\text{HIGINC}_{13t}) + \beta_{14}(ln\text{ENFPRO*MIDINC}_{14t}) + \beta_{15} ln(ln\text{ENFPRO*HIGINC}_{15t})$

Model 4c: $ln(\text{PRCRD}_{it}) = \text{Model 3g} + \beta_{12} ln(\text{MIDINC}_{12t}) + \beta_{13} ln(\text{HIGINC}_{13t}) + \beta_{14}(ln\text{PRBUR*MIDINC}_{14t}) + \beta_{15} ln(ln\text{PRBUR*HIGINC}_{15t})$

Model 4d: $ln(\text{PRCRD}_{it}) = \text{Model 3g} + \beta_{12} ln(\text{MIDINC}_{12t}) + \beta_{13} ln(\text{HIGINC}_{13t}) + \beta_{14}(ln\text{PUREG*MIDINC}_{14t}) + \beta_{15} ln(ln\text{PUREG*HIGINC}_{15t})$

Model 4e: $ln(\text{PRCRD}_{it}) = \text{Model 3g} + \beta_{12} ln(\text{MIDINC}_{12t}) + \beta_{13} ln(\text{HIGINC}_{13t}) + \beta_{14}(ln\text{PRBUR or PUREG})\text{*MIDINC}_{14t}) + \beta_{15} ln(l\ ln\text{PRBUR, PUREG *HIGINC}_{15t})$

Where MIDINC and HIGINC are dummies for middle-income and high-income levels respectively. Earlier studies like LLSV (1997; 1998) and Djankov et al (2007) identify three main legal traditions

– Common law; Civil law; and Socialist law. The effects of these legal traditions on the legal and credit information sharing institutional variables and mortgage deepening were estimated in Model 5 by modifying Model 4 - replaced the income dummies with legal origin dummies. Socialist law countries served as the reference. Similar modifications were made in model 6 to estimate the effect of culture on the institutional factors and mortgage depth. Following Stulz and Williamson (2003), the dominant religion of a country was used as a proxy for its culture. Five main religions emerged from the coding work: Protestantism, Catholicism, Islam, Orthodox, and Buddhism. Buddhism was used as the reference in the estimations.

Robustness checks were then conducted to ensure that the results are consistent. The robustness checks were structured in two different ways. First, the countries were resampled into three, based on the World Bank's classification of countries according to income levels. This strategy resulted in the re-run of Model 3g on three different samples: (1) low-income countries; (2) middle-income countries; and (3) high-income countries. The second robust check involved the re-estimation of first alternative strategy but with the creditor rights protection variable (getting credit variable) substituted with three alternatives - corruption control; government effectiveness; and strength of creditor legal rights index.

3.5 Data Description

Table 3.3 provides a summary of the descriptive statistics for all the variables used in the regression analyses. Generally, as provided by supplementary descriptive statistics in Appendix C, higher income levels are associated with broader financial sectors; higher levels of financial inclusion; a more significant share of the urban population; higher life expectancy; and stronger creditor rights protection. High-income countries also have more extensive coverage of private credit bureaus; more efficient property registration and transfer systems; and more significant economically active populations. Also, while high-income levels are associated with more efficient contract enforcement procedures, the relationship is not directly linear. So, for example, the data indicates that middle-income countries have the most efficient contract enforcement procedures. Middle-income countries have the least inflation volatility. It is easiest to obtain construction permits in low-income countries.

Table 3.3: Data: Summary of Descriptive Statistics

Variable	Observations	Mean	Standard Error	Minimum	Maximum
Cross Section					
Panel A: All Countries					
Mortgage Debt/GDP	99	1.942	1.747	-2.659	4.685
Private Credit/GDP	99	3.890	0.871	1.993	5.396
Getting Credit	99	3.919	0.490	2.526	4.605
Contract Enforcement (Cost)	99	3.213	0.504	2.046	4.959
Registering Property (Cost)	99	1.305	1.071	-2.303	3.073
Public Credit Register Coverage	99	0.874	1.252	0	4.293
Private Credit Bureaus Coverage	99	2.298	1.833	0	4.615

Credit Information Depth	99	1.168	0.758	0	2.079
Consumer Price Index	99	4.520	0.083	4.349	5.001
Consumer Price Index (Standard Deviation)	99	12.819	14.072	0.795	127.441
Construction Permit (Ease)	99	4.067	0.382	2.664	4.517
Bank Branches Per 1000 Adults	99	2.662	1.112	-0.555	4.614
Urban Population (%)	99	0.136	0.037	0.100	0.314
Population (15 – 64 years)	99	4.164	0.104	3.876	4.329
Life Expectancy (Years)	99	4.255	0.154	3.664	4.414
Longitudinal					
Panel B: All Countries					
Private Credit/GDP	928	3.396	0.026	0.715	5.076
Getting Credit	928	3.644	0.018	2.344	4.605
Contract Enforcement Procedures	928	3.653	0.004	3.332	3.989
Registering Property (Cost)	928	1.735	0.028	-0.523	3.148
Public Credit Register Coverage	928	1.636	0.042	0.000	4.143
Private Credit Bureaus Coverage	928	2.817	0.025	2.303	4.700
Consumer Price Index (Volatility)	928	0.453	0.661	-86.907	151.345
Construction Permit (Ease)	928	4.073	0.018	0.000	4.530
Bank Branches Per 1000 Adults	928	2.134	0.038	-1.212	4.989
Urban Population (%)	928	0.154	0.001	0.100	0.340
Population (15 – 64 years)	928	4.118	0.004	3.852	4.454
Life Expectancy (Years)	928	4.190	0.005	3.758	4.384
Corruption Control	928	-0.314	0.683	-1.609	1.723
Government Effectiveness	928	-0.320	0.685	-1.769	1.261
Creditor Rights Protection	928	1.497	0.472	0	2.302

Note: Panels A and B presents the descriptive statistics for both the cross-section data and panel data for all dependent and independent variables considered.

3.5.1 Mortgage Depth

Figure 3.1 provides information on the depth of mortgage finance systems (as a share of GDP) for 99 countries. Developing countries generally have smaller mortgage markets than developed countries. These developing countries are found in five principal regions: Sub-Saharan Africa; Middle East and North Africa; Latin America and the Caribbean; Emerging Asia, and Eastern Europe. Mortgage debt averages about 7% of GDP among the 67 developing countries in the sample, with the relatively developed mortgage market being between 20 and 37% of GDP (Bahama, Malaysia, South Africa, and Latvia). In contrast, mortgage debt in 32 developed countries in our sample averages 49% of GDP, with almost all systems (except Slovenia, Slovakia and Italy) exceeding 20%.

At the regional level (as shown in Appendix D), mortgage debt-to-GDP is lowest in Sub-Saharan Africa and highest in North America and Asia, with average figures of about 4% and 64% respectively. Western Europe follows North America and Asia with an average mortgage debt-to-GDP ratio of about 51%. The rest of the regions – Middle East and North Africa, Latin America and the Caribbean, Emerging Asia and Eastern Europe have average ratios within the range of 8.3 – 17%. Wide variations in mortgage depth also exist within the regions. Even among developed countries, there is great variation. In section 3.6, we attempt to disentangle the causes for these variations in the size of mortgage finance systems across countries.

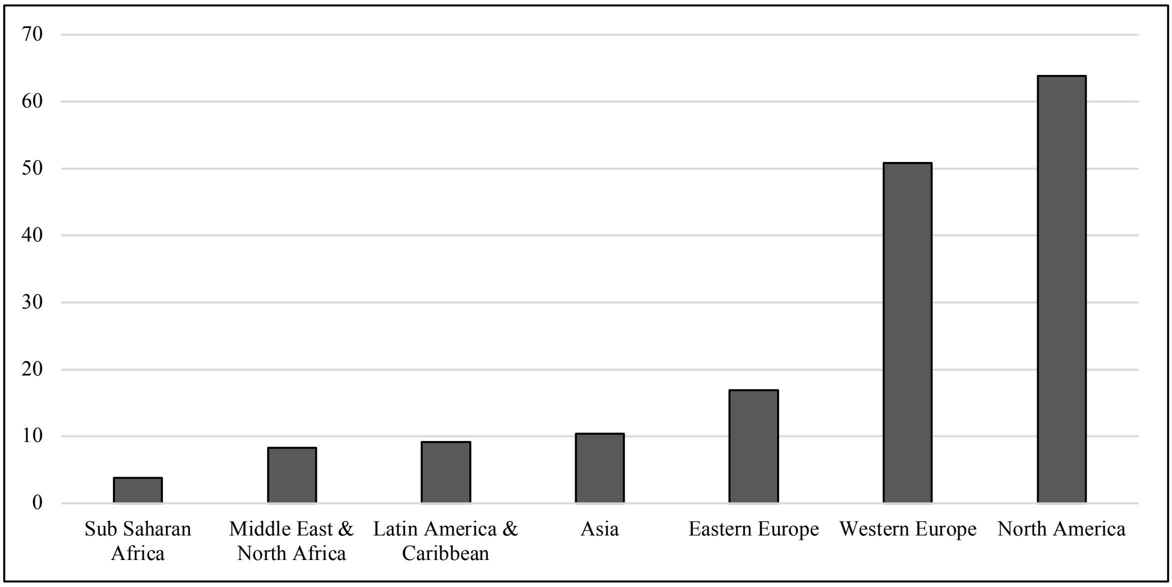

Figure 3. 1: Depth of Mortgage Finance Markets: Regional Averages (%).

Note: The estimates presented here are the regional averages of outstanding mortgage debt-to-GDP ratios expressed as a percentage. A limitation of this data is that the estimated average (arithmetic mean) mortgage depth was based on unbalanced data - only one or two data points for many countries and at least 10 data points for 45 countries. The classification of the countries under the regions is based on World Bank classifications.

3.5.2 Initial Assessments

Various tests of the assumptions underlying the Classical Linear Regression Model (CLRM) - normality, linearity, multicollinearity, homogeneity, and model specification - were conducted as follows.

3.5.2.1 Normality Test

Ordinary Least Squares (OLS) regression requires that the regression residuals are identically and independently distributed to obtain valid estimates of p-values for the t-tests and F-test. Normality is however not required in order to obtain unbiased estimates of the regression coefficients. The Shapiro-Wilk W Test for normality was conducted. The test examines the null hypothesis that the residuals of the regression model is normally distributed. The results (as indicated by Prob >Z values) confirm the null hypothesis for the cross-section data but rejects it for the panel data. The panel data was therefore transformed by estimating a log-log model.

Table 3.4: Shapiro-Wilk W Test for Normality

Data	Observation	W	V	Z	Prob >Z
Cross-Section	99	0.987	1.0621	0.132	0.447
Longitudinal	116	0.987	7.453	4.959	0.000

3.5.2.2 Linearity

When we do linear regression, we assume that the relationship between the response variable and the predictors is linear. This is the assumption of linearity. If this assumption is violated, the linear regression will try to fit a straight line to data that does not follow a straight line. A scatter plot between the response variable and the predictors is often used to see if nonlinearity is present, such as a curved band or a big wave-shaped curve. The scatter plot method was therefore adopted. The scatter plot matrix in shown in Appendix E indicates that some of the relationships may not be linear. For example, the relationship between the law enforcement procedures and mortgage credit/GDP is not linear. The logs of variables were therefore used to deal with potential issues of non-linearity.

3.5.2.3 Multicollinearity

When there is a perfect linear relationship among the predictors, the estimates for a regression model cannot be uniquely computed. The term collinearity implies that two variables are near perfect linear combinations of one another. The primary concern is that as the degree of multicollinearity increases, the regression model estimates of the coefficients become unstable and the standard errors for the coefficients can get wildly inflated.

Correlation analyses is one of the popular methods used to identify potential multicollinearity problems. Correlation analyses were therefore conducted to minimise multicollinearity in the models. The correlation matrices (attached as Appendix F) show that across all countries, most of the independent variables are well correlated with the dependent variables – mortgage credit/GDP and private credit/GDP ratios. The level of correlation among the independent variables is also acceptable. GDP per capita over time is however highly correlated with some of the independent variables – getting credit, private credit bureau coverage, bank branches per 1000 adults, and the share of the population (15 – 64 years). Badev et al (2014) also raised multicollinearity issues when GDP per capita were included in our regressions although the explanatory power increases. In their study, some of the variables lose significance or change signs, such as urbanization (ibid.). GDP per capita is therefore omitted in the main regression analyses to mitigate multicollinearity concerns but proxied by the life expectancy variable.

The Variance Inflation Factor (VIF) was also estimated to further test for multicollinearity of the independent variables in the linear regression models as presented in Table 3.5. The VIFs are well below 11 (benchmark) suggested by scholars; thus, supporting the results of the correlation analysis that most of the independent variables are acceptably correlated.

Table 3.5: Variance Inflation Factors (VIF) of Independent Variables

Variable	Cross-Section	
	VIF	1/VIF
Getting Credit	2.29	0.437
Contract Enforcement Procedures	1.46	0.685
Registering Property (Cost)	1.76	0.569
Public Credit Register Coverage	1.71	0.586
Private Credit Bureaus Coverage	2.84	0.352
Credit Information Depth	4.72	0.212
Consumer Price Index	1.64	0.610
Consumer Price Index (Volatility)	1.92	0.521
Construction Permit (Ease)	1.31	0.762
Bank Branches Per 1000 Adults	1.58	0.631
Urban Population (%)	1.13	0.888
Population (15 – 64 years)	2.32	0.431
Life Expectancy (Years)	1.22	0.817

3.5.2.4 Homogeneity Test

Homogeneity of variance of the residuals is another assumption of OLS regression. If the model is well-fitted, there should be no pattern to the residuals plotted against the fitted values. If the variance of the residuals is non-constant then the residual variance is said to be 'heteroscedastic'. The Breusch-Pagan / Cook-Weisberg test for heteroskedasticity examines the null hypothesis that the variance of the residuals is homogenous. Therefore, if the p-values as shown in Table 3.6 is very small, we would have to reject the hypothesis and accept the alternative hypothesis that the variance is not homogenous. The results showed that the evidence is against the null hypothesis that the variance is homogeneous. To correct for heteroskedasticity, the Robust Standard Errors method clustered around the countries was used for the regressions.

Table 3.6: Breusch-Pagan/Cook-Weisberg Test for Heteroskedasticity

Dependent Variable	Chi^2 (1)	Prob > Chi^2
Mortgage Credit/GDP	11.86	0.0006
Private Credit/GDP	9.61	0.0019

3.5.2.5 Model Specification

A model specification error can occur when one or more relevant variables are omitted from the model or one or more irrelevant variables are included in the model. If relevant variables are omitted from the model, the common variance they share with included variables may be wrongly attributed to those variables, and the error term is inflated. On the other hand, if irrelevant variables are included in the model, the common variance they share with included variables may be wrongly attributed to them. Model specification errors can substantially affect the estimate of regression coefficients.

There are a couple of methods to detect specification errors. The Link test command in Stata performs a model specification link test for single-equation models. The Link test is based on the idea that if a regression is properly specified, one should not be able to find any additional independent variables that are significant except by chance. The Link test creates two new variables, the variable of prediction, **_hat**, and the variable of squared prediction, **_hatsq**. The model is then refit using these two variables as predictors. **_hat** should be significant since it is the predicted value. On the other hand, **_hatsq** should not, because if our model is specified correctly, the squared predictions should not have much explanatory power. That is, we would not expect **_hatsq** to be a significant predictor if our model is specified correctly. The results in Table 3.7 show that **_hatsq** is insignificant; thus, indicating that the model is specified correctly.

Table 3.7: Link Test for Model Specification: Cross-Section Models

Variable	Dependent Variable	
	Mortgage Credit/GDP	**Private Credit/GDP**
_hat	0.743*	0.189*
	(0.106)	(0.226)
_hatsq	0.087	0.006
	(0.032)	(7.429)
Constant	-0.040	17.336***
	(0.128)	(7.429)
Prob > F	0.000	0.000
R-squared	80.4%	67.8%
Adjusted R-Squared	80%	67.1%

The Hausman test was used to differentiate between fixed effects model and random effects model in the panel data. The summary of the test results in Table 3.8 indicates that Prob>chi^2 is greater than the significance level of 5%, i.e. 20.4%, and hence, the null hypothesis that the random effect model is preferred model cannot be rejected. Full details of the test are provided in Appendix G.

Table 3.8: Summary of Hausman Test Results

Chi^2 (17) = (b-B)[(V_b-V_B)^(-1)](b-B)	Prob>chi^2
21.51	0.204

2.5.2.6 Independence

The assumption that the errors associated with one observation are not correlated with the errors of any other observation cover several different situations and worth considering. The concentration of low mortgage debt in some areas and autocorrelation[17] in time series raise issues of independence. Two tests of independence were conducted. The Durbin-Watson test for correlated residuals was also used. The Durbin-Watson statistic has a range from 0 to 4 with a midpoint of 2. A rule of thumb is that test statistic values in the range of 1.5 to 2.5 are relatively normal. Values outside of this range could be cause for concern. Field (2009) suggests that values under 1 or more than 3 are a definite cause for concern. The observed values for the cross-section regressions as shown in Table 3.9 is at the midpoint (d-statistics = 2.189 and 2.039 for regression models with mortgage credit/GDP and private credit/GDP independent variables), which according to the rule of thumb is acceptable. Apart from possible issues of autocorrelation, dependence due to the concentration of low mortgage debt in some areas was dealt with using cluster-robust standard errors regression around the countries.

Table 3.9: Durbin Watson Test Results

Independent Variables	Durbin Watson (d- Statistic)
Mortgage Credit/GDP	2.187
Private Credit/GDP	2.039

3.5.3 Determining the Relative Importance of Factors

While statistical significance and the size of regression coefficients are important indicators of statistical relevance of variables, they are difficult to compare because they are often different variables and measured differently. There are therefore alternative approaches to establish the practical importance of variables. Two popular approaches are the use of standardized coefficients and the contribution of each variable to the coefficient of determination (R-Squared) when the variable is added to the model last. The latter is used to estimate the relative importance of the variables because of convenience and easiness of computation. Because the change in R-squared analysis treats each variable as the last one entered into the model, the change represents the percentage of the variance a variable explains that the other variables in the model cannot explain. In other words, this change in R-squared represents the amount of *unique* variance that each variable explains above and beyond the other variables in the model. The rule of thumb with this approach is that the predictor variable that is associated with the greatest increase in R-squared is the most important.

3.6 Empirical Results and Discussion

In this section, the regression results of the determinants of mortgage depth are presented. First, Tables 3.10 to 3.12 shows cross-sectional results for all countries (including both developing and developed countries), using both mortgage debt/GDP ratios and private credit/GDP ratios as

[17] In this situation it is likely that the errors for observation between adjacent semesters will be more highly correlated than for observations more separated in time

dependent variables. The rest of the results presented here follow the empirical strategy provided in section 3.4.

3.6.1 What Explains Comparative Mortgage Finance Development?

We initially present some cross-sectional estimations where data for each country has been averaged. Table 3.10 shows that the *Getting Credit* variable (measuring creditor rights protection), credit information sharing via public credit registers and private credit bureaus, the depth of credit information systems, ease of construction permitting, and the number of bank branches per 1000 adults are positively and statistically significant in explaining variations in mortgage deepening. However, the ease of construction permitting is insignificant in explaining financial depth. Inflation volatility and the cost involved in enforcing contracts are also significant but negatively associated with both mortgage depth and private credit depth. Life expectancy and urbanisation are insignificant for financial deepening, but for the latter, which has significant negative effect on mortgage deepening.

On an adjusted R-Squared basis, a combination of these variables in different models explains between 75.8 – 78.8% of cross-sectional variations in mortgage depth and between 66.8% – 68.8% of private credit depth. The analysis, therefore, shows mortgage credit better than private credit, but the latter offers an option in time series models. These similarities in results suggest that private credit may be a good proxy for mortgage credit and thus confirm the strong positive relationship found between them (see Appendix B). It is however important to acknowledge that although the direction of the regression coefficients is similar, the magnitude differs, and the variation may be significant. This variation may be due to many reasons. For instance, private credit in particular has many dimensions than mortgage credit. Private credit consists of all manner of short and long-term loans including credit cards, business and personal loans, auto loans, etc. These varying forms of credit may have different determinants and different creditors and debtors that may exhibit different behaviours from mortgage creditors and debtors.

The baseline panel models presented in Table 3.11 indicates that the passage of time only is statistically significant but explains less than 2% of variations in the depth of private credit, compared with about 28% when GDP per capita is included. This result is consistent with Boleat (2008) who postulated a strong association between economic development and the size of the mortgage market. Similarly, the other income indicators – income dummies and life expectancy – are strongly significant. In fact, the model with income dummies and life expectancy (as substitutes for GDP per capita) has similar explanatory powers (28%). However, the income dummies provide additional information, in that, they suggest that there might be an income tipping point for financial deepening. While low-income has an adverse effect, middle- and high-incomes are positively associated.

Table 3.10: Cross-Sectional Regression Results

	Mortgage Debt/GDP (%)			Private Credit/GDP Ratio		
Independent Variable	(1)	(2)	(3)	(4)	(5)	(6)
Getting Credit	1.105***			0.456***		
	(0.231)			(0.138)		
Contract Enforcement Cost	-0.521***	-0.442**	-0.446**	-0.296**	-0.255**	-0.259**
	(0.191)	(0.205)	(0.200)	(0.119)	(0.108)	(0.107)
Public Registers Coverage	-0.238***	-0.211**	-0.313***	-0.114**	-0.096*	-0.152***
	(0.077)	(0.091)	(0.084)	(0.046)	(0.053)	(0.047)
Private Bureaus Coverage		0.168***			0.093**	
		(0.062)			(0.036)	
Credit Information Depth			0.592***			0.317***
			(0.151)			(0.096)
Inflation Rate	4.715***	4.491***	4.225***	2.061***	1.867**	1.738**
	(1.057)	(1.171)	(1.100)	(0.668)	(0.703)	(0.661)
Inflation volatility	-0.034***	-0.032***	-0.031***	-0.016***	-0.014***	-0.014***
	(0.005)	(0.007)	(0.006)	(0.003)	(0.004)	(0.004)
Ease of Construction permitting	0.562*	0.716*	0.652**	0.117	0.189	0.154
	(0.301)	(0.389)	(0.395)	(0.197)	(0.216)	(0.213)
Property Registration & Transfer cost	0.118	0.057	0.093	0.045	0.029	0.047
	(0.093)	(0.110)	(0.103)	(0.057)	(0.061)	(0.058)
Life Expectancy	-0.630	-0.882	-0.910	0.179	0.074	0.059
	(0.595)	(0.619)	(0.595)	(0.437)	(0.405)	(0.390)
Urban Population Share (%)	-0.321**	-0.357*	-0.380*	-0.017	-0.031	-0.043
	(0.162)	(0.183)	(0.181)	(0.105)	(0.099)	(0.101)
Bank branches per 100,000 adults	0.636***	0.773***	0.703***	0.294***	0.344***	0.308***
	(0.116)	(0.131)	(0.129)	(0.070)	(0.073)	(0.072)
Constant	-21.537***	-16.570**	-14.956**	-7.970**	-5.587	-4.768
	(5.980)	(6.590)	(6.432)	(3.828)	(3.916)	(3.794)
No. of Countries	99	99	99	99	99	99
R-Squared	78.8%	74.1%	75.8%	68.8%	66.8%	68.5%

Note: Table 3.10 presents log-log cross sectional multiple regression results using two dependent variables: mortgage debt/GDP and private credit/GDP. For each of the dependable variables, six models are presented. The models contain two legal institutional variables - getting credit and contract enforcement cost – that measures the quality of the legal rules in relation to creditor rights and their enforcement respectively. Three information sharing variables – coverage of public credit registers, coverage of public credit registers, and the depth of credit information systems - are included. Cluster-robust standard errors are presented in parenthesis. *, **, *** represents significance at 10%, 5%, and 1% levels, respectively.

The subsequent models exclude GDP per capita because of its strong correlation (<40%) with other relevant variables as indicated earlier in Section 3.5.2.3. The cost of registering and transferring property, ease of obtaining construction permits and inflation volatility adversely affect financial deepening, but only the latter is significant (at least 5%). The number of bank branches per 100,000 adults, urbanisation, and the share of the economically active people are positively and significantly (1% significance level) associated with financial deepening. Together, they account for about 58.6% of the variation in financial deepening across all developing countries over time. In essence, urban economies characterised by higher income levels, higher life expectancy, and a larger economically active population who have better access to the financial system have a better chance at financial deepening, and vice versa.

3.6.2 Gain due to Legal and Credit Information Institutional Frameworks

Results with the two legal institutional and two credit information sharing variables are presented in Table 3.12. The results indicate that both creditor rights protection and the procedures involved in contract enforcement are significant for financial deepening. While the procedure involved in contract enforcement is negative, creditor rights protection is positively associated. The results further indicate that increasing contract enforcement efficiency contributes more statistically to mortgage deepening than the legal rules relating to creditor rights. A 10% increase in creditor rights protection results in less than 1% (between 0.64 – 0.90%) increase in financial depth. This outcome is low compared with about 10% reduction in financial depth for a 10% increase in contract (foreclosure) enforcement inefficiency.

Credit information sharing is only significant when public credit registers and private credit bureaus are combined as shown in Table 3.12. This outcome occurs when the contract enforcement variable is excluded. Moreover, public credit registers become significant (10% significance level) only when there is no creditor rights protection – result not shown. The emerging significance of the combined credit information sharing variable is most likely driven by the importance of public credit registers. The results suggest a possible substitution effect between the legal institutional variables and the information sharing variables, consistent with Brown, Jappelli, and Pagano (2009). A 10% increase in the coverage of both public credit registers and the combined credit information sharing variable results in a 0.23% and 0.42% increase in financial depth accordingly. Empirically, Brown, Jappelli, and Pagano (2009) found that credit information sharing expands credit access and availability in economies with weak legal systems over time.

Improvements in the legal institutional variables tends to make a more statistically significant and positive impact on financial depth than the credit information sharing variables. This effect may be attributed to the scarcity and underdeveloped state of formal credit information systems in general and private credit bureaus in particular in many developing countries.

Table 3.11: Baseline Models without the Legal and Credit Information Institutional Factors

	Dependent variable: Private Credit/GDP Ratio									
Independent Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Year Dummies	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
GDP Per Capita		0.147***								
		(0.043)								
Middle-Income dummy			0.997***							
			(0.150)							
High-income dummy			1.176***							
			(0.197)							
Life Expectancy (Years)				3.494***	3.529***	3.524***	3.690***	3.153***	3.168***	1.931***
				(0.301)	(0.505)	(0.512)	(0.597)	(0.697)	(0.706)	(0.684)
Inflation Volatility					-0.001*	-0.001*	-0.001*	-0.001	-0.001	-0.0005
					(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Property Registration & Transfer cost						-0.002	-0.003	0.005	0.005	0.008
						(0.034)	(0.034)	(0.034)	(0.033)	(0.033)
Urban Population Share (%)							1.466	1.759	1.747	3.008*
							(1.927)	(1.640)	(1.638)	(1.727)
Population (15 - 64 years) (%)								1.424**	1.403**	1.451**
								(0.689)	(0.695)	(0.690)
Ease of Construction Permitting									-0.019	-0.025
									(0.029)	(0.029)
Number of Bank Branches Per 100,000 Adults										0.245***
										(0.065)
Constant	3.191***	2.047	2.362***	-11.385***	-11.552***	-11.529***	-12.447***	-16.110***	-16.013***	-11.683***
	(0.081)	(0.338)	(0.134)	(1.256)	(2.134)	(2.175)	(2.690)	(2.497)	(2.476)	(2.744)
Number of Countries	116	116	116	116	116	116	116	116	116	116
Observations	928	928	928	928	928	928	928	928	928	928
R-squared: Within	0%	27.3%	28.7%	31.3%	31.9%	31.9%	32.1%	32.2%	32.3%	38.8%
R-squared: Between	0%	30.4%	28.7%	47.9%	47.9%	47.9%	47.9%	52.9%	52.6%	59.8%
R-squared: Overall	1.6%	28.1%	28.7%	47%	47%	47%	47%	51.7%	51.5%	58.6%

Note: The log-log models include all the other variables with the exception of the credit information and legal institutional variables: getting credit, contract enforcement procedures, coverage of public credit registers, and the coverage of private credit bureaus. Seven other variables are also included. Three macroeconomic indicators of income level (GDP per capita and income dummies for low, middle and high-incomes) and price stability (inflation volatility) are included. Two real estate specific indicators - ease of obtaining construction permits and property registration and transfer cost – measuring housing supply elasticity and land administration efficiency are included. Demographic characteristics are measured by three variables: share of urban population, life expectancy (both men and women), and the share of the economically active population (15 - 64 years). The number of bank branches per 100,000 adults measures the degree of financial access or inclusion. Estimation is by random effects panel modelling. Cluster robust standard errors are presented in parenthesis. *, **, *** represents significance at 10%, 5%, and 1% levels, respectively.

In countries where they have emerged, they are limited in terms of their depth and coverage, possibly due to high financial exclusion and the large informal sector. Thus, the ex-ante creditor protection mechanism in credit information sharing is often weak, which exposes lenders to higher degrees of adverse selection and moral hazards. Therefore, a stronger ex-post creditor protection mechanism (property rights and their enforcement) is required to internalise possible externalities and also signal the safety of investments to investors and creditors, thereby attracting more mortgage lending.

3.6.3 Legal and Credit Information Institutions Matter, but Disproportionately

The results further suggest that legal institutions and credit information frameworks matter but have varying statistical effects on financial deepening depending on the level of economic development. Improvements in creditor rights protection, contract enforcement and credit information sharing via public credit registers have a more significant impact in low-income countries. In fact, the magnitude of the regression coefficients of these creditor protection mechanisms diminishes from low-income countries to high-income countries (see Table 3.13). A 10% increase in creditor rights protections results in 3.11% increase in financial depth in low-income countries compared with 0.33% and [-0.26%] in middle-income and high-income nations respectively.

This diminishing effect could be attributed to the substitution effect provided by more credit information sharing in the more economically developed economies – middle and high-income countries. Relatively extensive credit information sharing systems in the middle- and high-income countries provide mortgage lenders with a stronger ex-ante protection mechanism that fosters efficient allocation of credit. This mechanism may reduce agency risk – adverse selection and moral hazards – and hence may reduce the demand for ex-post protection via the law. That is not to say that creditor rights protection is not essential, but not knowing when the institution is established and strong enough, could lead to diminishing returns to further investment in that institution. This outcome could be potentially wasteful, considering the scarcity of resources in these countries, despite the unlimited needs.

In addition, a similar weaker effect of contract enforcement efficiency in high-income countries than low-income countries can be observed. Inefficient contract enforcement procedures hurt financial deepening more in low-income countries. A 10% deterioration in the effectiveness of contract enforcement induces about 25% reduction in financial depth in low-income states compared with about 10% in middle-income countries. It, however, has a contrary effect [0.07% increase in financial depth] in high-income countries. This result may be due to the fact that foreclosure as a contract enforcement process, for instance, would only start when a borrower defaults on repayment or breaches other contract terms. Credit information sharing via private credit bureaus, in particular, is a luxury that emerges as both a complementary and alternative ex-ante protection mechanism as countries become economically more prosperous.

Table 3. 12: Institutional Gain

	Dependent variable: Private Credit/GDP Ratio				
Independent Variables	(1)	(2)	(3)	(4)	(5)
Getting Credit	0.083*	0.086*	0.064		
	(0.048)	(0.049)	(0.047)		
Contract Enforcement Procedures	-0.983***			-1.012***	-0.927***
	(0.332)			(0.328)	(0.313)
Public Registers Coverage	0.013	0.015		0.023	
	(0.017)	(0.018)		(0.018)	
Private Bureaus Coverage	-0.028	-0.023		-0.014	
	(0.027)	(0.028)		(0.026)	
Public Registers + Private Bureaus Coverage			0.034		0.042**
			(0.026)		(0.022)
Property Registration & Transfer Cost	0.032	0.009	0.020	0.033	0.043*
	(0.040)	(0.035)	(0.026)	(0.038)	(0.037)
Number of Bank Branches Per 100,000 Adults	0.237***	0.244***	0.246***	0.244***	0.243***
	(0.062)	(0.063)	(0.063)	(0.064)	(0.063)
Urban Population Share (%)	3.383**	3.043*	3.235*	3.473**	3.621**
	(1.687)	(1.719)	(1.758)	(1.706)	(1.737)
Population (15 - 64 Years) (%)	1.507**	1.422**	1.323**	1.525**	1.399**
	(0.687)	(0.686)	(0.661)	(0.690)	(0.667)
Life Expectancy (Years)	1.961***	1.882***	1.856***	2.012***	1.954***
	(0.639)	(0.670)	(0.666)	(0.655)	(0.649)
Ease of Construction Permitting	-0.028	-0.027	-0.031	-0.023	-0.029
	(0.029)	(0.030)	(0.027)	(0.029)	(0.029)
Inflation Volatility	-0.0005	-0.001	-0.001	-0.0004	-0.0004
	(0.001)	(0.001)	(0.000)	(0.001)	(0.001)
Year Dummies	YES	YES	YES	YES	YES
Constant	-8.750***	-11.620***	-11.183***	-8.741***	-8.407
	(2.802)	(2.719)	(2.684)	(2.819)	(2.762)
Number of Countries	116	116	116	116	116
Observations	928	928	928	928	928
R-squared: Within	40.6%	39.5%	39.6%	40.2%	40.1%
R-squared: Between	60.9%	60.7%	61.1%	59.8%	61.4%
R-squared: Overall	59.8%	59.5%	59.9%	58.7%	60.1%

Note: This table shows the relevance of the legal and credit information institutional frameworks to private credit. The log-log models include the four institutional variables of interest: (1) getting credit, (2) contract enforcement procedures, (3) coverage of public credit registers, and (4) coverage of private credit bureaus – in addition to eight other variables included in the baseline model in Table 3.7: inflation volatility, income dummies, ease of obtaining construction permits, property registration and transfer cost, the share of urban population, life expectancy (both men and women), the share of the economically active population (15 - 64 years), and the number of bank branches per 100,000 adults. Estimation is by random effects panel modelling. Cluster robust standard errors are presented in parenthesis. *, **, *** represents significance at 10%, 5%, and 1% levels, respectively.

This outcome is possible because financial inclusion improves and more tradable credit information becomes commercially available.

3.6.4 Legal Origins, Culture and Financial Development

Besides, the level of income, the study also examined the effect of other fundamental sources of institutional quality such as the legal origins of a country and culture (regarding the dominant religion in a nation) on financial development. The results indicate that the effect of creditor rights protection on financial deepening is conditional on a country's legal heritage as presented in Table 3.13. The interaction between creditor rights protection and legal origins is only significant for common law countries and not civil law countries. With every 10% improvement in creditor rights protection, the mortgage markets in Socialist law countries (reference) are expected to deepen by about 1.3% more than countries with common law and civil law traditions. Contrary to the legal origins theory, which will be discussed in chapter four, mortgage markets in common law countries are about 0.82% shallower than Socialist law countries with weaker creditor rights protection. Although insignificant, mortgage deepening in civil law countries is about 0.27% less profound than in Socialist law countries for a 10% improvement in creditor rights protection.

Legal heritage does not produce any significant differential impact on the relationship between the efficiency of contract enforcement and financial depth. The Common law, however, plays a significant role in the relationship between credit information sharing via private credit bureaus and financial depth (see Appendix H). A 10% increase in the coverage of public credit registers in Common law countries is associated with a 0.79% reduction in financial depth. This result suggests that Common law countries benefit less from public credit registers, which is consistent with Djankov et al. (2007). They indicated that while Common law countries benefit more from private credit bureaus, public credit registers help civil law countries more regarding financial deepening.

Culture is relevant in explaining the relationship between the creditor protection environment and financial depth as shown in Table 3.12. The interaction terms for culture suggests that improvements in creditor rights protection in Catholic- and Orthodox-dominated countries have more positive and significant effects on financial deepening than in Buddhist-dominated nations (reference). Catholic- and Orthodox-dominated countries increase private credit by 1.9% and 2.8% respectively. Similar improvements in creditor rights protection in Protestant- and Islamic-dominated nations are however not significant. Improvement in contract enforcement efficiency is more beneficial in Muslim-dominated countries than Buddhist-dominated nations. Like Common law countries, Protestant-dominated countries benefit less from public credit registers. This issue may be due to the established correlation between Common law and Protestantism (Williamson and Stulz, 2003). However, religion has no significant effect on the relationship between private credit bureaus and financial deepening.

Table 3.13: Interactions Model I: Income Level, Legal Origin and Culture on Creditor Protection

	Dependent variable: Private Credit/GDP Ratio					
Independent Variables	(1)	(2)	(3)	(4)	(5)	6
Getting Credit	0.311***	0.081***	0.129**	0.076***	0.028	0.087***
	(0.059)	(0.028)	(0.062)	(0.028)	(0.656)	(0.028)
Contract Enforcement Procedures	-0.936***	-2.487***	-1.044***	-2.447**	-0.985***	-2.182***
	(0.274)	(0.742)	(0.273)	(1.296)	(0.275)	(0.819)
Public Registers Coverage	0.026**	0.018	0.011	0.017	0.002	0.013
	(0.013)	(0.013)	(0.013)	(0.013)	(0.013)	(0.013)
Private Bureaus Coverage	-0.005	-0.024	-0.026	-0.030	0.041**	-0.031
	(0.020)	(0.020)	(0.020)	(0.020)	(0.020)	(0.020)
Property Registration & Transfer Cost	0.041*	0.014	0.038	0.024	0.021	0.022
	(0.023)	(0.025)	(0.023)	(0.024)	(0.024)	(0.024)
Number of Bank Branches Per 100,000 Adults	0.230***	0.235***	0.233***	0.231***	0.244***	0.24***
	(0.024)	(0.024)	(0.025)	(0.024)	(0.024)	(0.024)
Urban Population Share (%)	3.739***	3.540***	2.783***	3.037***	2.763***	3.301***
	(1.014)	(1.008)	(0.987)	(1.017)	(1.017)	(1.029)
Population (15 - 64 Years) (%)	1.775***	1.589***	1.448***	1.449***	1.554***	1.471***
	(0.394)	(0.398)	(0.360)	(0.366)	(0.358)	(0.361)
Life Expectancy (Years)	1.927***	1.949***	1.888***	1.921***	2.022***	2.126***
	(0.354)	(0.354)	(0.339)	(0.351)	(0.344)	(0.348)
Ease of Construction Permitting	-0.039	-0.0.31	-0.033	-0.032	-0.028	-0.030
	(0.027)	(0.027)	(0.026)	(0.027)	(0.026)	(0.027)
Inflation Volatility	-0.0002	-0.0005	-0.0005	-0.0004	-0.0008*	-0.0004
	(0.0004)	(0.0004)	(0.0004)	(0.0004)	(0.0004)	(0.0004)
Middle-Income dummy	0.968***	-5.305*				
	(0.267)	(3.016)				
High-income dummy	1.002**	-9.327***				
	(0.387)	(3.252)				
Getting Credit *Mid-Income	-0.278***					
	(0.066)					
Getting Credit *High-Income	-0.337***					
	(0.091)					
Contract Enforcement Procedures *Mid-Income		1.454*				
		(0.821)				
Contract Enforcement Procedures *High-Income		2.494***				
		(0.882)				
Common Law			1.086***			
			(0.389)			
Civil Law			0.163			

			(0.324)			
Getting Credit * Common Law			-0.211**			
			(0.086)			
Getting Credit * Civil Law			-0.027			
			(0.068)			
Contract Enforcement Procedures * Common Law				1.840		
				(1.352)		
Contract Enforcement Procedures * Civil Law				1.125		
				(1.353)		
Catholic					-0.855***	-4.724
					(0.314)	(3.497)
Muslim					-0.045	-6.373*
					(0.296)	(3.382)
Orthodox					-1.412***	3.622
					(0.412)	(4.781)
Protestant					0.057	-6.067*
					(0.432)	(3.602)
Getting Credit * Catholic					0.162**	
					(0.078)	
Getting Credit * Muslim					-0.031	
					(0.073)	
Getting Credit * Orthodox					0.252***	
					(0.089)	
Getting Credit * Protestant					-0.046	
					(0.107)	
Contract Enforcement Procedures * Catholic						-4.724
						(3.497)
Contract Enforcement Procedures * Muslim						6.373*
						(3.382)
Contract Enforcement Procedures * Orthodox						3.622
						(4.781)
Contract Enforcement Procedures * Protestant						-6.067*
						(3.602)
Year Dummies	YES	YES	YES	YES	YES	YES
Constant	-10.709***	-3.495	-8.170***	-3.232	-8.666***	(3.323)
	(2.069)	(3.207)	(1.814)	(4.802)	1.815)	(3.323)
Number of Countries	116	116	116	116	116	116
Observations	928	928	928	928	928	928
R-squared: Within	42.2%	41.2%	41.6%	41%	42%	41.2%
R-squared: Between	60.9%	62%	61.4%	62.2%	63.6%	62.8%
R-squared: Overall	59.8%	60.8%	60.2%	61%	62.3%	61.6%

Note: These models examine the conditional effect of the different levels of economic development on the legal and credit information institutional quality and in turn mortgage deepening. The level of economic development is represented by dummy variables for low, middle and high-income countries. The controls in these models are all the other non-legal institutional variables used in Table 3.12. These variables are inflation volatility, income dummies, ease of obtaining construction permits, property registration and transfer cost, the share of the urban population, and life expectancy (both men and women). The others are the share of the economically active population (15 - 64 years), and the number of bank branches per 100,000 adults. Estimation is by random effects panel modelling. Cluster robust standard errors are presented in parenthesis. *, **, *** represents significance at 10%, 5%, and 1% levels, respectively.

3.7 Robustness Checks

Results of two sets of robustness checks are presented below. The first set uses an alternative sampling strategy, which involves the estimation of the model for three different income groups – low, middle, and high. The second strategy consists of the replacement of the creditor rights protection (getting credit) variable with three alternatives.

3.7.1 Alternate Sampling Strategy

In this strategy, the sample of 116 countries is broken down into three groups of similar countries according to the World Bank's country classification system based on GNI per capita. As presented earlier, we obtained samples of 22 low-income states, 73 middle-income countries, and 21 high-income countries. A test of sample variance was then conducted on the three samples. The analysis of variance (ANOVA) test, indicates that the three groups are statistically different as expected at 1% significance level (p-value of 0.000). Appendix C presents descriptive statistics for the variables used in the reduced sample regressions.

Table 3.14 confirms the earlier results. The results show that stronger creditor rights protection, efficient contract enforcement, efficient credit information sharing via public credit registers, higher levels of financial inclusion, urbanisation, increasing economically active population and increasing and life expectancy promote financial development. The cost of property registration and transfer has varying impacts on financial deepening depending on the income level. Although insignificant, it is negative in high-income countries, and positively associated in in low- and middle-income countries. Low-income countries benefit more from stronger legal and information institutions.

Besides, the same model has different explanatory powers conditional on the income level. The model explains financial deepening in low-income countries better than middle- and high-income countries. These results are consistent with theoretical models developed by Besley and Ghatak (2010). They predict that the effect of improved property rights on access to finance is heterogeneous but stronger in poorer countries that usually have more significant levels of illiquid wealth (dead capital) than wealthier nations (that have more significant levels of liquid wealth) (De Soto, 2001). This is so because a feature of formal property rights and their enforcement is that it is a freely available contracting technology that becomes widely available to all lenders once established than an informal mechanism of contract enforcement based on social networks (Besley and Ghatak (2010). In other words, improving formal property rights and their enforcement engenders systematic effects (available to all lenders) and may have higher outcomes in poor countries (where they are weak) than in wealthier nations, where they may be already established.

Table 3. 14: Panel Results for Alternative Strategy I

Dependent Variable: Private Credit/GDP Ratio			
Independent Variables	Low-Income Countries	Middle-Income Countries	High-Income Countries
Getting Credit	0.222**	0.036	0.156**
	(0.093)	(0.032)	(0.072)
Contract Enforcement Procedures	-1.914***	-1.221***	-0.525
	(0.620)	(0.364)	(0.505)
Public Registers Coverage	0.666**	0.038***	0.188***
	(0.270)	(0.013)	(0.065)
Private Bureaus Coverage	-0.392	-0.007	-0.076**
	(0.538)	(0.022)	(0.038)
Number of Bank Branches Per	0.353***	0.221***	0.121
100,000 Adults	(0.063)	(0.028)	(0.081)
Property Registration & Transfer Cost	0.175**	0.079**	-0.033
	(0.082)	(0.037)	(0.034)
Inflation Volatility	-0.0007	-0.0009*	0.002*
	(0.001)	(0.0005)	(0.0008)
Ease of Construction Permitting	-0.010	-0.035	0.166
	(0.064)	(0.028)	(0.152)
Population (15 - 64 Years) (%)	4.449***	0.493	1.391*
	(0.920)	(0.521)	(0.780)
Urban Population Share (%)	8.177***	2.283	2.198
	(1.438)	(1.571)	(2.199)
Life Expectancy (Years)	1.319**	1.979***	7.007***
	(0.655)	(0.414)	(1.287)
Year Dummies	YES	YES	YES
Constant	-16.967***	-3.502	-30.910
	(4.796)	(2.749)	(5.869)
Number of Countries	22	73	21
Observations	176	584	168
R-squared: Within	61.6%	40.3%	48.1%
R-squared: Between	82.3%	43.7%	50.7%
R-squared: Overall	79.1%	43.5%	50.2%

Note: These models examine the conditional effect of the different levels of economic development on the legal and information institutional quality and in turn private credit. Using an alternative strategy to the interaction variable technique used in Table 3.13, we show the differential impact of these factors in reduced samples reflecting the different levels of economic development. All the variables used in the previous tables are used here to: getting credit and contract enforcement cost, coverage of public credit registers, coverage of public credit, inflation volatility, income dummies, ease of obtaining construction permits, property registration and transfer cost, the share of urban population, life expectancy (both men and women), the share of the economically active population (15 - 64 years), and the number of bank branches per 100,000 adults. Estimation is by random effects panel modelling. Cluster robust standard errors are presented in parenthesis. *, **, *** represents significance at 10%, 5%, and 1% levels, respectively.

3.7.2 Alternative Measures of Creditor Protection Quality

Table 2.15 present results for the last set of robustness checks, where we use three different proxies for the quality of creditor rights protection. The first alternative measure is the World Bank Doing Business Strength of Legal Rights Index, which measures the quality of legal rules relating to private property rights. The other two alternatives are governance indicators: (1) estimate of the control of corruption, and (2) estimate of government effectiveness, sourced from the World Governance

Indicators database, constructed by Kaufmann, Kraay and Mastruzzi (2010). Government effectiveness and corruption control are directly linked to the quality of the political economy and administration of a country.

Mostly, all three alternative variables promote financial deepening and work like the Getting Credit variable; i.e. government competence is like an externality. These results are particularly impressive because they point to the quality of the political economy and administration playing a pivotal role in financial deepening in developing countries. The exercise of public power by elites in ways that prevent state capture for private interests and gains through both petty and grand forms of corruption are policy choices that promote financial development. Likewise, weak and poor public and civil services manifesting through poor policy formulation and implementation resulting from political pressures and incredible government commitments to such policies limit financial development and vice versa. This result corroborates the case study in chapter five, which provides details of how politics, political ideology and political economy relates to property rights protection, judicial independence, contract enforcement and mortgage market regulation in Ghana.

3.8 Relative Importance of Factors

Figure 3.2 – 3.4 illustrates the relative importance of the variables based on the percentage contributions each variable makes to the coefficient of determination when added last. Estimates are based on cross-sectional and panel results shown in Tables 3.10 and 3.12 respectively. Figures 3.2 and 3.3 shows that seven factors are key in explaining mortgage depth across countries. In terms of relative importance, financial access or inclusion (bank branches per 100,000 adults) is the most important variable, followed by creditor rights protection (getting credit), inflation volatility, inflation rate, coverage of public credit registers, contractor enforcement cost, and the ease of obtaining construction permits, which loses significance in explaining private credit depth. This ranking shows that a combination of the level of financial inclusion, strength of institutional frameworks, and macroeconomic stability accounts for most of the variations in mortgage and financial deepening across countries.

Table 3.12 showed that some six variables were statistically significant in explaining financial deepening across countries over time. Among these variables as shown in Figure 3.4, financial access is the most important, followed by the share of the economically active population (population between age 15 and 64 years), life expectancy, urbanisation, creditor rights protection, and the efficiency of contract enforcement. Financial inclusion is the most important for both the cross-section and panel analyses. The relative importance of some of the variables changes over time. For instance, the importance of creditor rights protection drops over time from second to five. Inflation volatility loses significance while an increasing share of the economically active population, increasing life expectation (proxy for GDP), and urbanisation become statistically significant and ranked among the top five important variables.

Table 3. 15: Panel Models with Alternative Measures of Creditor Protection Quality (Low-, Middle- and High-Income Countries)

	Dependent Variable: Private Credit/GDP Ratio								
Independent Variables	Low-Income Countries			Middle-Income Countries			High-Income Countries		
Legal Rights Index	0.193**			0.008			0.251**		
	(0.093)			(0.055)			(0.119)		
Corruption Control Estimate		0.301**			0.041			0.227***	
		(0.120)			(0.049)			(0.067)	
Government Effectiveness Estimate			0.192**			0.164***			0.184**
			(0.103)			(0.055)			(0.096)
Contract Enforcement Procedures	-1.765***	-1.445**	-1.789***	-1.234***	-1.210***	-1.121***	-0.660	-0.649	-0.671
	(0.612)	(0.575)	(0.556)	(0.365)	(0.362)	(0.354)	(0.520)	(0.521)	(0.524)
Public Registers Coverage	0.790***	0.854***	0.821***	0.042***	0.041***	0.040***	0.095*	0.106**	0.109**
	(0.273)	(0.260)	(0.257)	(0.013)	(0.013)	(0.013)	(0.054)	(0.052)	(0.053)
Private Bureaus Coverage	-0.428	-0.679	-0.584	-0.001	-0.001	-0.004	-0.045	-0.043	-0.053
	(0.540)	(0.543)	(0.548)	(0.022)	(0.022)	(0.022)	(0.035)	(0.035)	(0.036)
Number of Bank Branches Per	0.346***	0.347***	0.368***	0.223***	0.219***	0.210***	0.001	0.152*	0.104
100,000 Adults	(0.064)	(0.062)	(0.061)	(0.028)	(0.028)	(0.028)	(0.092)	(0.079)	(0.080)
Property Registration & Transfer Cost	0.147*	0.093	0.133*	0.077**	0.076**	0.064*	0.055	-0.007	-0.006
	(0.080)	(0.080)	(0.078)	(0.037)	(0.037)	(0.037)	(0.042)	(0.031)	(0.032)
Inflation Volatility	-0.002	-0.001	-0.001	-0.001*	-0.001	-0.001	0.002***	0.002***	0.002***
	(0.001)	(0.001)	(0.001)	(0.0005)	(0.0005)	(0.0005)	(0.001)	(0.001)	(0.001)
Ease of Construction Permitting	0.011	0.039	0.024	-0.035	-0.036	-0.036	0.305**	0.257*	0.238
	(0.062)	(0.057)	(0.056)	(0.028)	(0.028)	(0.028)	(0.154)	(0.149)	(0.152)
Population (15 - 64 Years) (%)	4.505***	4.448***	4.143***	0.480	0.477	0.426	1.604**	1.509**	1.485*
	(0.915)	(0.869)	(0.859)	(0.522)	(0.520)	(0.512)	(0.778)	(0.767)	(0.788)
Urban Population Share (%)	8.020***	8.290***	7.932***	2.352	2.306	2.159	2.602	3.851	3.190
	(1.436)	(1.313)	(1.303)	(1.578)	(1.559)	(1.511)	(2.380)	(2.515)	(2.452)
Life Expectancy (Years)	1.342**	1.441**	1.366**	1.988***	1.973***	1.800***	7.930***	8.636***	8.101***
	(0.648)	(0.594)	(0.579)	(0.415)	(0.412)	(0.407)	(1.353)	(1.382)	(1.374)
Year Dummies	YES	YES	YES	YES	YES	YES	YES	YES	YES
Constant	-17.602***	-18.067	-15.453***	-3.336	-3.312	-2.593	-35.704***	-38.270***	-35.710***
	(4.776)	(4.443)	(4.360)	(2.753)	(2.732)	(2.683)	(6.185)	(6.368)	(6.268)
No. of Countries	22	22	22	73	73	73	21	21	21
Observations	176	176	176	584	584	584	168	168	168
R-squared: Within	61.1%	60.1%	59.2%	40.3%	40%	40.1%	50%	52.3%	48.2%
R-squared: Between	82.7%	87.4%	87.4%	42.9%	44.6%	49.6%	43.3%	49.6%	52%
R-squared: Overall	79.3%	83.1%	82.9%	42.7%	44.3%	49%	43.1%	49.1%	51.3%

Note: Three alternative measures of creditor protection quality are used here: legal rights index, estimate of corruption control, and estimate of government effectiveness. The controls in these models are the information sharing variables – public credit registers and private credit bureaus – and all the other non-legal institutional variables used in the previous models: inflation volatility, income dummies, ease of obtaining construction permits, property registration and transfer cost, the share of urban population, life expectancy (both men and women), the share of the economically active population (15 - 64 years), and the number of bank branches per 100,000 adults. Estimation is by random effects panel modelling. Cluster robust standard errors are presented in parenthesis. *, **, *** represents significance at 10%, 5%, and 1% levels, respectively.

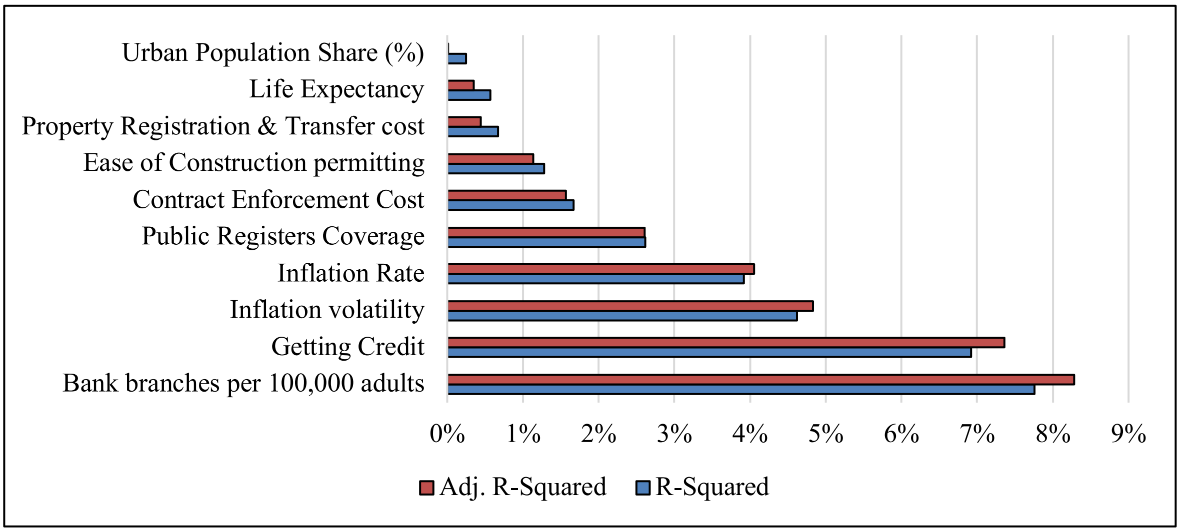

Figure 3.2: Percentage Contribution to R-Squareds: Mortgage Credit (Cross-Section)

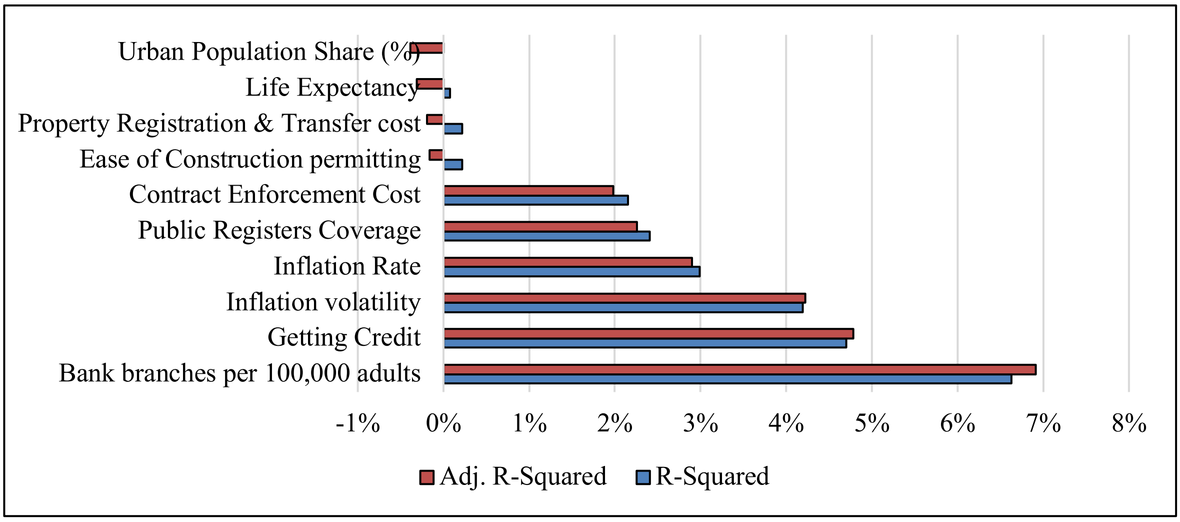

Figure 3.3: Percentage Contribution to R-Squareds: Private Credit (Cross-Section)

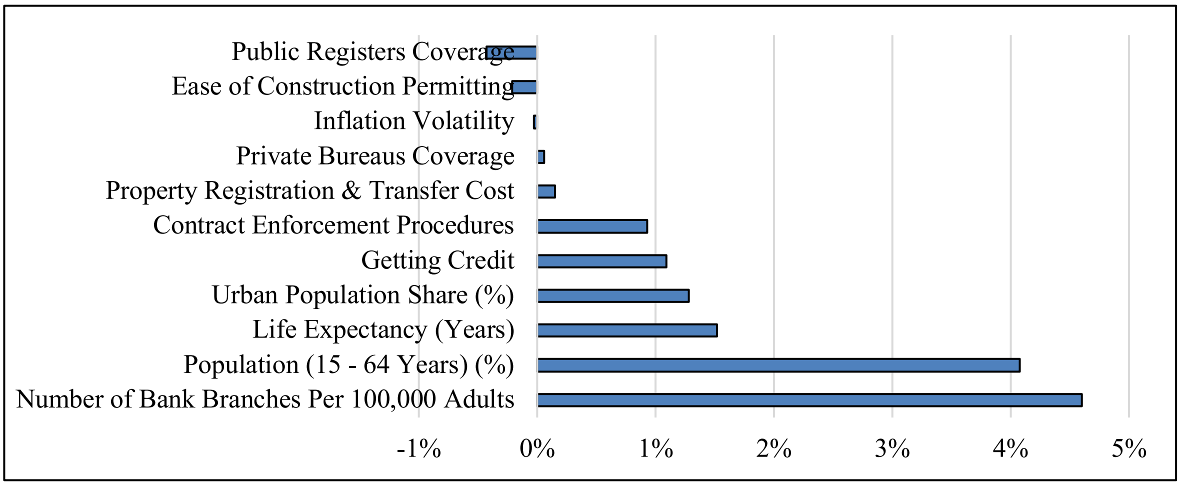

Figure 3.4: Percentage Contribution to R-Squareds: Private Credit (Panel)

3.9 Summary and Conclusion

This study presents empirical evidence on the determinants of mortgage credit and private credit across developing countries. The results indicate that mortgage credit and private credit deepens in the urbanised middle- and high-income developing countries that are characterised by stronger legal and information institutional frameworks and have long-term sources of loanable funds and a larger pool of the economically active population, who have more access to the financial system. The level of financial inclusion is the single most important determinant of mortgage and financial deepening both across countries and over time.

Focusing on the institutional factors, our results show that both legal institutions and information frameworks are important but have disproportionate impacts on mortgage and private credit deepening depending on the level of economic development, legal traditions and culture. In particular, the results show that improvements in creditor rights protection and contract enforcement efficiency matter more in countries where they are weaker than where they are established. The former are low-income countries characterised by the civil law legal heritage and are dominated by Catholics and Orthodox Church members. This effect is better understood as a diminishing return to investments in legal institutional development, possibly beyond the point when they become established. Beyond this point, further investment in creditor rights protection, which may over-liberalise the mortgage and private credit market may have detrimental effects on financial development like the subprime mortgage crisis in the US.

Credit information sharing, mainly through public credit registers is vital for mortgage and private credit deepening across all income levels but may not be an efficient mechanism in low-income countries for protecting creditors. This issue is attributed to their limited coverage owing to high levels of financial exclusion. As such, there is room for legal and credit information institutional specialisation, particularly in low-income countries, given technological limitations imposed on those countries by their levels of economic development. While low-income countries may be limited to ex-post creditor protection mechanisms, middle- and high-income countries are effectively open to more advanced credit information sharing institutions like private credit bureaus as an ex-ante creditor protection mechanism (or as a substitute) in addition to a better ex-post creditor protection mechanism.

As a general proposition, in conclusion, there appears to be a consensus that poor legal fundamentals – in particular, the inability to create and enforce a mortgage lien in a reasonably efficient and cost-effective manner – and high credit information asymmetry leads to increased risk of mortgage lending. This outcome may lead higher transactions costs and markets that are both smaller and shallower regarding income strata served and the total size of investments. Regardless of the statistical evidence, it seems self-evident that any rules or procedures that increase the risks and costs associated with lending will have a price. That price may be higher interest rates or less credit than would otherwise be available, or maybe in encouraging the use of alternative systems of securing credit that provide fewer formal legal protections to debtors and creditors.

Going forward, it is important to point out that the institutional factors and the credit information variables add marginally to the baseline regression result. Estimates indicate that these variables add less than 2% to the baseline panel regression R-squared on 58.6%. This result is key in that it provides a basis for further analysis of the institutional factors and credit information frameworks in the subsequent in-depth case studies.

CHAPTER FOUR

STAKEHOLDER VIEWS ON MORTGAGE FINANCE UNDERDEVELOPMENT IN GHANA

4.0 Introduction

The previous chapter provided a general understanding of some of the relevant cross-country factors that affect mortgage and financial development in developing countries. However, the quantitative models presented do not explain national variations completely and that the institutional and legal origin variables add only marginally to the degree of explanation. The results further cast doubt on the legal origin-financial growth nexus in developing countries contrary to the Legal Origins theory. For instance, Ghana has the favoured common law heritage but creditor rights protection, judicial independence, and mortgage foreclosure has historically been weak, with ramifications for the development of its mortgage market.

In the last decade, some of the necessary conditions that promote financial development, such as a rising income level, strong creditor rights and credit information sharing systems, which emerged as drivers of financial and mortgage growth have improved. For example, besides attaining a middle-income status in 2010, the passage of the Home Mortgage Finance Act, 2008 (Act 770), Credit Reporting Act, 2008 (Act 726) and the Borrowers and Lenders have strengthened the protection of mortgage creditors and investor rights. These actions resulted in an increase in Ghana's score on the World Bank Creditor Rights Index increased from 5.5 in 2007 to a moderate rating of 8.0 in 2017 out of a maximum score of 12.

Ghana’s mortgage market is however still nascent. Housing credit is the least developed compared to credit to other industries over the last five years as shown in Figure 3.1. The mortgage market grew in size by a significant 40%, representing about US$50.78 million increase from US$126.22 million in 2008 to US$177 million as at 2013 (Adu, 2013). Improvements in income and legal institutional and credit information frameworks may have contributed to such high growth. All things equal, the mortgage market will become significant if these improvements are sustained. Whether the current growth rate will be sustained is uncertain given historical antecedents. Besides, mortgage credit is less than one per cent of GDP. This is small compared to more than 10% in other middle-income countries like South Africa, Mauritius, and Namibia in Africa.

From the discussion above, there is lack of a complete understanding of factors driving mortgage finance development. These outcomes leave room for more and better context-specific explanation of mortgage finance development, which was obtained using other sources of data and methods of analysis. Therefore, using Ghana as a case study, this part of the project provides a sub-national analysis of stakeholder views on the causes of the low level of mortgage finance. The relative importance of these factors based on stakeholder perception and how these factors affect the development of mortgage finance are also examined. Addressing these questions foster an understanding of differences in stakeholder perceptions about mortgage underdevelopment in Ghana, the factors contributing to this condition, and how mortgage providers in particular, are adjusting to the changing environment for mortgage lending. As will emerge later in this paper, there are other factors besides income levels, legal and institutional framework, and the credit information-sharing framework that may be more relevant to mortgage finance development in Ghana now. This is the view of stakeholders including mortgage lenders and banking and finance professionals.

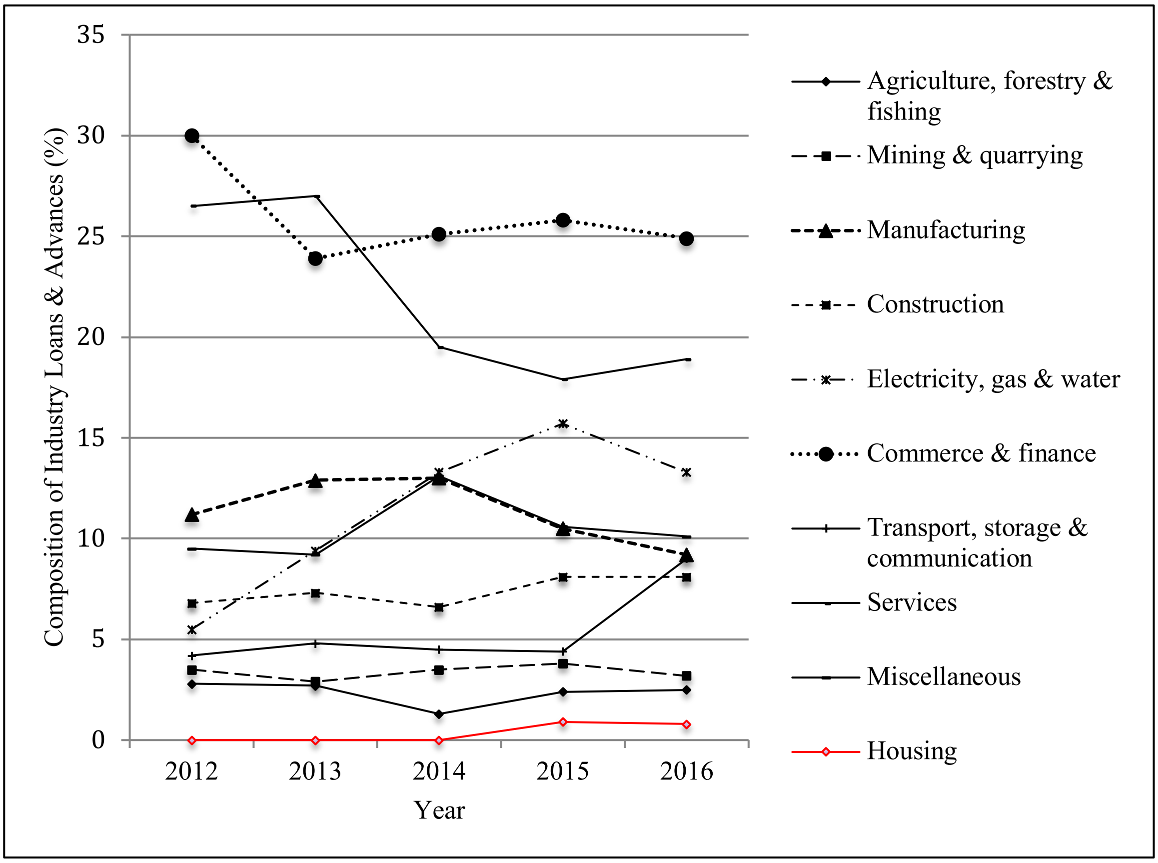

Figure 4. 1: Composition of Ghana Industry Loans and Advances (%)

Source: PwC (2017)

This chapter is divided into four sections. Following this introduction, the research methodology adopted for this study is presented, followed by a presentation of results, and subsequent detailed discussion of the findings. The final section concludes the project.

4.1 Factors Affecting Mortgage Finance Development in Ghana: A Literature Review

Attempts to explain mortgage underdevelopment or how to develop the mortgage market in Ghana have yielded four strands of literature, although a few. They include reviews of the nature and historical development of the mortgage market (see Ansah, 1996; Mahama, 2009; Boamah, 2010a;b); descriptions and analysis of specific projects and financial innovations (see Quayson, 2007; Afrane et al., 2014; Donkor-Hyiaman and Owusu-Manu 2015); and those that attempt to investigate the factors affecting mortgage finance development (see Karley, 2002; Asare and Whitehead, 2006; Boamah, 2010; 2011; 2012; Teye et al., 2015; Quansah and Debrah, 2015; Ahiadorme, 2016).

Constraints identified in the recent extant literature are similar to those that affected the mortgage market over a decade ago, thus, suggesting some inertia in the development of the market. These constraints can broadly be categorized into two: macroeconomic and institutional. Ansah (1996) focuses on the operations of the then newly established Home Finance Company, which became the HFC Bank and now the Republic Bank. The study identified macroeconomic factors like high and volatile inflation, high interest rates, excessive exchange rate movements, low incomes levels and declining real incomes, lack of long-term loanable funds and repayment culture, inadequate supply of houses, and high cost of housing as drivers of mortgage underdevelopment (see also Ansah, 1999; Karley, 2002; Quayson, 2007; Boamah, 2010a;b; 2011; Owusu-Manu et al., 2015; Teye et al., 2015; Quansah and Debrah, 2015). These economic conditions, which are influenced by government policies, determine the competitive environment within which mortgage lending takes place with ramification for the credit evaluation process (Karley, 2002).

These studies are however silent on the relative importance of these factors. To this end, Ahiadorme (2016) assesses the interaction between the macro economy and the mortgage market. The study found that exchange rates movements over time are negatively related to the number of mortgage loan approvals and were statistically more significant than inflation, interest rates, and income growth. This result is consistent with Konadu-Agyeman (2001), Akuffo (2006) and Boamah (2011) although the later found that inflation and interest rates to be statistically insignificant. By implication, mortgage lenders may be focused on households earning superior currencies like Ghanaians living abroad or Ghanaians with foreign denominated income. This result supports the Asare and Whitehead's (2004) idea that most resident Ghanaians have been priced out of the mortgage market by high exchange rates.

In terms of institutional factors, Butler et al (2009) found property registration and foreclosure significant in explaining mortgage credit-to-GDP ratios. Nelson and Asamoah (2016) contends that the success of the mortgage market depends highly on the efficiency of the land titling system. This is because land and the improvements on it are the subject matter of mortgages. Therefore, land administration affects the ability and efficiency of registering and pledging land as collateral for a mortgage. According to Wyatt (2011), land policies, administration systems and processes that were developed to serve large heavily populated countries and inherited by former colonies have not scaled down to serve the requirements of many developing countries. Many scholars have highlighted the importance of the formalisation of property rights in land through registration to collateral-based lending (De Soto, 2000). However, minimal land in Africa, in general, has been registered (Cotula, Toulmin, and Hesse, 2004), and hence the continent is being deprived of the benefits of land title registration. Toulmin (2009) for instance indicates that less than 3% of all land in Africa is registered.

In Ghana, Karley (2002) notes that slow land titling and registration procedures are major constraints to mortgage finance development. Mahama (2008) also identifies ownership insecurities of title to property as an interesting characteristic of the mortgage market in Ghana. Such properties are considered as dead capital - about US$8 -10 billion in Ghana (Mahama, 2008) - because they cannot be as collateral to raise housing finance (De Soto, 2000; Derban et al., 2002). Despite this challenge with land ownership, reforms have been ongoing through the Land Administration Project (LAP) since 2003. These reforms are expected to secure land and property ownership thereby increasing the number of mortgageable landed properties in the last decade. Ehwi and Asante (2016) for example finds some gains in the turn-around time for processing land documents, from more than 36 months to about three months and an increase in public awareness about the process of title registration. However, the complete digitisation of the title registration process and follow-up procedures are yet to be achieved (ibid.). It is therefore expected that uncertainties with property ownership and the inefficiencies of the land administration system will still pose significant constraints on property rights and thus mortgage finance development.

Another important institutional factor studied by Scholars is the effect of the quality of creditor rights and its enforcement (foreclosure) on mortgage development. Boamah (2011) studied the regulatory environment for mortgage finance in Ghana and describes the regulatory framework before 2008 as unfavourable, compared to the post-2008 era when the Home Mortgage Finance law, 2008 (Act 770) was enacted. According to Donkor-Hyiaman and Ghartey (2017), the Act 770 is considered as providing a speedier approach to mortgage foreclosure through non-judicial foreclosures. They further argue that the Act enhances collateral security by expanding the number of collateral assets through the concept of floating charges in contrast to fixed charges (in the previous legislation). Therefore, mortgage rules per se may not be problematic compared with their enforcement. This is because despite the improvements in the legal rules in relation to the rights of mortgage lenders, not much has been done to improve the efficiency of the courts, without which the legal rights may not be realised. Gavu and Adamu (2015) reveal that the foreclosure process is still long and costly. However, Butler et al (2009) argues that efficient mortgage foreclosure is what makes mortgage legal rules effective. Therefore, consistent with the finding that efficient law enforcement matters more for financial development than legal rules (see Djankov et al., 2008), reforms in mortgage foreclosure may be needed.

Besides these formal institutions, a culture of debt aversion may exist (Teye et al., 2015; Quansah and Debrah, 2015). This view may appear valid given that most households use alternative financing approaches such as 'sweat equity' (Derban et al., 2002) to acquire their houses. This outcome is also expected if mortgage affordability levels are low. Therefore, it is questionable to attribute the low levels of mortgage financing to debt aversion given the low levels of incomes in Ghana. However, culture may affect mortgage development through other mechanisms like religion and language (see Stulz and Williamson, 2003), which is a gap in the literature.

Nelson and Asamoah (2006) also identified the lack of information about potential clients as a constraint to market development. This exposes creditors to adverse selection risk and moral hazard risk with ramification for credit allocation efficiency. Notwithstanding, there have been reforms in the credit information sharing framework with the passage of the Credit Reporting Act, 2007 (Act 726). The Act provides a framework for the establishment of credit referencing systems and requires financial institutions to share credit information among themselves through the credit referencing systems. As a result, three credit referencing companies – XDS Data, Dun & Bradstreet, and Hudson Price Data - have emerged. With this improvement in the credit information sharing infrastructure, it is expected that credit rationing will reduce, thereby, increasing mortgage grow.

4.2 Lender and Stakeholder Survey in Ghana

This section lays out the research methodology adopted for the stakeholder survey. The section is divided into three. Section one discusses the methodology used; section two explains the sampling technique and section three discusses how the data was analysed.

4.2.1 Research Methodology: Grounded Theory

Understanding the influences on demand and supply of any product or service in any market provides the key to identifying its constraints. In this regard, lenders who constitute the supply side of the mortgage finance market form a vital source of information in our attempt to understand why mortgage debt is low in Ghana. How much information is available to them is likely to depend among other things on their different experiences with mortgage lending, which potentially affects the meanings they place on them. The extant literature for example, although limited, reveals differences in what researchers consider as the primary constraints to mortgage finance development (See Karley, 2002; Boamah, 2010; 2011; 2012; Quansah and Debrah, 2015; Teye et al., 2015; *c.f.* Akuffo, 2005; Ansah, 1996; Quayson, 2007). Therefore, the best method for this part of the study is the one that is capable of capturing the different processes involved in mortgage lending and the experiences as well as the meanings lenders place on them.

The Grounded theory method is therefore considered as an excellent and appropriate strategy because of the study's focus on gaining insight about the social process and the explicit attempt to generate a theoretic model of mortgage finance development in Ghana (Maxwell, 1996; Brandriet, 1994). Grounded theory is an inductive and systematic approach to the collection and analysis of qualitative data for generating a theory that furthers the understanding of phenomena (Maxwell, 2012; Chenitz and Swanson, 1986). As a qualitative technique, its general strength lies in the unique meaning informants place on particular processes, events and actions. This objective coincides with the purpose of this study. Grounded theory is inspired by symbolic interactionism, which infers that a person's behaviour is shaped by social interactions through the active process of engagement that enables them to make conscious decisions about how they will act in a given situation (Reutter et al., 1997). The behaviour of mortgage financiers, for instance, is thus shaped not only by the regulatory and institutional environment but also by the actions of borrowers.

This stakeholder survey received initial institutional approval from School of Real Estate and Planning, Henley of Business School, University of Reading before the data collection exercise was undertaken. Additional informed consent (see attached consent form as Appendix H) was obtained from all respondents who were interviewed after all questions regarding approval and procedures were addressed. The next section explains the process involved in the selection of an appropriate sample and sample size for the survey.

4.2.2 Sample and Sampling Method

A total of 34 interviewees were surveyed using a combination of two non-probabilistic sampling techniques – Purposive and Snowball sampling techniques. These sampling techniques were used at different stages, based on the specialised nature of the mortgage market. The Purposive sampling technique involves selecting specific units or cases based on a particular purpose rather than randomly (Tashakkori and Teddlie, 2010; Patton, 2005; LeCompte and Schensul, 1999; Miles and Huberman, 1994; Kuzel, 1992). Purposive sampling has been used in studies to sample informants with specialised knowledge or skill, compare cultural practices, case studies, and when the population is too small for a random sample (Palinkas et al., 2015; Bergman, 2008; Tongco, 2007). For this study, the Purposive sampling technique was adopted because of the limited number of informants and the unique knowledge requirements of the study. On this basis, the known experts, numbering 18 by their industry experience and or academic and research experience were purposively identified through a review of the extant academic and market literature (see Appendix I for the list of respondents). They were subsequently approached and interviewed with the aid of a semi-structured interview guide (Louise, Barriball and While, 1994), made up of eight questions.

The use of semi-structured interviews in data collection is common in social science research (Alsaawi, 2014; Alshenqeeti, 2014). This type is a mix of structured and unstructured interviews, where the questions are pre-planned prior to the interview (Stuckey, 2013) but the interviewer gives the interviewee the chance to elaborate and explain particular issues through the use of open-ended questions. Besides its popularity, the semi-structured type of interview was principally used because it offered an opportunity for further interrogation of responses to reach depths and richness of responses that structured formats may hinder (Bryman, 2008; DiCicco-Bloom and Crabtree, 2006). The interview questions (see Appendix J) were mainly influenced by the research questions above. Through a pilot survey, academic peers and practitioners subsequently shaped the questions.

The Snowball approach, which relies on recommendations of knowledgeable people (Noy, 2008; Biernacki and Waldorf, 1981; Seidler, 1974), was then applied to identify additional respondents for the study. This process can be considered as a link-tracing process (Spreen, 1992) that takes advantage of the social networks of identified respondents to provide researchers with an ever-expanding set of potential contacts (Thompson, 1997). This approach yielded 23 likely respondents. Given resource constraints, the relevant question then was how to select the best additional participants without losing essential opinions? In a similar case, Tongco (2007) adopted a technique that uses the popularity of a person measured by two factors, the frequency of recommendations and the rarity of frequently mentioned individuals by his contemporaries to add on to the sample. Thus, the goal was to find someone recommended the most number of times (Sanders, 1960). By this strategy, the sample was increased by 16 respondents. The last five interviews yielded similar results, which was considered as the point of data saturation (See Glaser and Strauss, 2009). This outcome brought the total sample to 34 respondents.

Despite the usefulness of data collected via the Snowball approach, it may introduce significant path dependence into the data. This was however not the case in this study because the similarities found between the responses of the recommended respondents and those who recommended that would not be considered as significant – see Appendix L.

4.2.3 Interview Process, Data Presentation, and Analysis

The interview and data analysis processes were guided by Grounded theory procedures (see Glaser and Strauss, 2009). The use of Grounded theory allowed for the establishment of themes across the interviewees' data. However, data analysis and theory construction through Grounded theory is an ‘evolving process’ (Charmaz, 2000). Thus, Strauss and Corbin (1998) describe a procedure beginning with the use of analytical tools – such as finding key constructs, phrases or words in documents and experimenting with meanings consistent with the three stages of coding – open coding, axial coding, and selective coding (see Strauss and Corbin, 1990).

This type of coding is open coding, which is defined as the *‘process through which concepts are identified and their properties and dimensions are discovered in data’* (p.101) was done be listening, transcribing, and re-reading the transcripts. Axial coding then followed by *‘creating subcategories and associating these with ‘properties and dimensions’* (p.123). The final stage was Selective coding, which involved *‘integrating and refining the theory’* (p.143) by using categories and their associations with subcategories to create a type of case study of a particular sub phenomenon. Throughout the process, theoretical sampling is vital for the saturation of categories (Strauss and Corbin 1998). In order to achieve saturation, revaluation of concepts/themes/categories at varying stages as required by Grounded theory analysis.

Nine main analytical categories and their underlying channels emerged after condensing and aggregating the initial codes. These categories and their sub-categories form the conceptual framework presented in Figure 4.4 of this chapter. For establishing internal validity, preliminary findings were compared to those in existing literature to assess the appropriateness of concepts and causal relationships, and further discussed with academic peers (Maxwell, 2012).

Differences in responses were further tested using the Chi-Square test of independence. The Chi square test is a statistical test which measures the association between two categorical variables (Pearson, 1893). This test was used because of data availability, which was categorical in nature – gender, age, work experience, education (subject studied), educational level (postgraduate or undergraduate), management level (frontline, middle-line, and top), industry of work, and international experience of respondents. The null hypothesis in this regard was that these differences in the responses were due to differences in the above categorical variables. A significant test rejecting the null hypothesis would suggest that within the sample, one of these variables of interest is associated with a second variable of interest (Franke et al., 2012).

The presentation of the analysis of data was aided by the use of tables and figures – column and web charts. The web charts for example were used to provide graphical presentations of factor ranking results constructed from the list of limiting factors identified by the interviewees. They are primarily used for ordinal measurements with the purpose of showing the commonality of elements.

For this study, we use them to show the relative importance of the limiting factors identified by the interviewees. The results of the survey are presented in the following sections.

4.3 Presentation of Results

The survey results are presented in two sections. The section following immediately presents the profile of the interviewees including their fields of employment, gender, age, job position (management level), working experience, level of education, and the major subject studied. After this section, the views of the interviewees on the constraints to the development of mortgage finance are presented, followed by a detailed discussion of constraints.

4.3.1 Some Characteristics of the Interviewees

The majority of interviewees were surveyed from 21 firms in six areas - mortgage, banking and finance, insurance, real estate, education, insurance and research (as shown in Table 4.1). Thirty-six per cent of the participants have changed jobs in the last 10 years. The majority of those (coming from one firm) who changed jobs (4 participants, representing 33 per cent) formerly worked at the Ghana Home Loans Limited – the only mortgage specialist firm in Ghana. They moved into three banking and finance institutions - Stanbic Bank, First National Bank and Zenith Bank. Overall, about 62 per cent of the respondents have had some direct or indirect experience with the mortgage, and banking and finance business.

Table 4.1: Categories of Interviewees

Field of Employment	Number of Interviewees	Percentage of Interviewees (%)
Mortgage Specialist	6	18
Banking and Finance	12	35
Real Estate	7	21
Education	6	18
Insurance	2	6
Research	1	3
Total	34	100

Source: Field Survey (2016)

Figure 4.2 presents a summary of the relationship between the gender and age of the interviewees. The interviewees were predominantly male, accounting for 76% and 24% females as shown by Figure 4.2. This estimate represents 26 males and 8 females respectively. The majority of the interviewees (21 per cent) are males within the 31 – 35 age cohort as shown in Figure 4.2. None of the female interviewees are within the 36 – 40, 46 – 50, 51 – 55, 56 – 60, and 61 – 65 age cohorts. With the exception of the 66 – 70 age cohort, there was at least a male interviewee in each of the age groups.

Figure 4.3 provides a summary of the interviewees' work and management experiences. Interviewees occupy various positions in frontline, middle and top management[18]. Thirty-five per cent of the interviewees are frontline managers (12 interviewees), 47% are middle line managers (16 interviewees), and 18% are top management officials (6 interviewees).

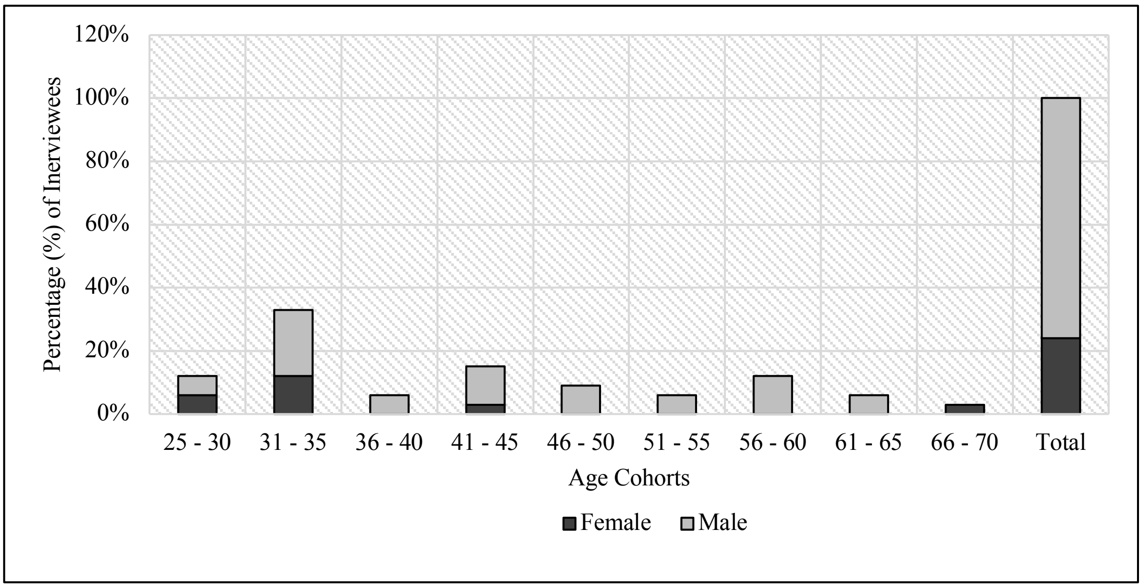

Figure 4.2: Gender and Age of Interviewees

Source: Survey (2016)

Participants have considerable work experience in terms of the number of years. Most of them, mainly middle and top management officials, representing 62% each have relevant work experience spanning 5 to 35 years, against 38% (predominantly frontline managers and a few middle-line managers) with work experience between 1 and 5 years.

The survey also shows that participants are well educated, measured by the level of education in relevant fields such economics, finance, real estate and law. The majority, constituting 85% of respondents have postgraduate degrees, while 15% have had undergraduate education. The common undergraduate level programme pursued by most of the participants is Land Economy[19], representing about 53% of the fields of study of participants.

[18] Top management officials are people responsible making strategic decisions regarding business, asset allocation and the overall performance of their companies. Middle management officials manage staff within specialized divisions and departments in their respective companies, while frontline staff are officials in direct contact with the public.

[19] This programme involves the study of economics (finance), law and planning in relation to landed property. The law and finance of real property is a topical subject in this programme. Participants had taken their studies in Land Economy in either the University of Cambridge, UK and the Kwame Nkrumah University of Science and Technology, Ghana, or both.

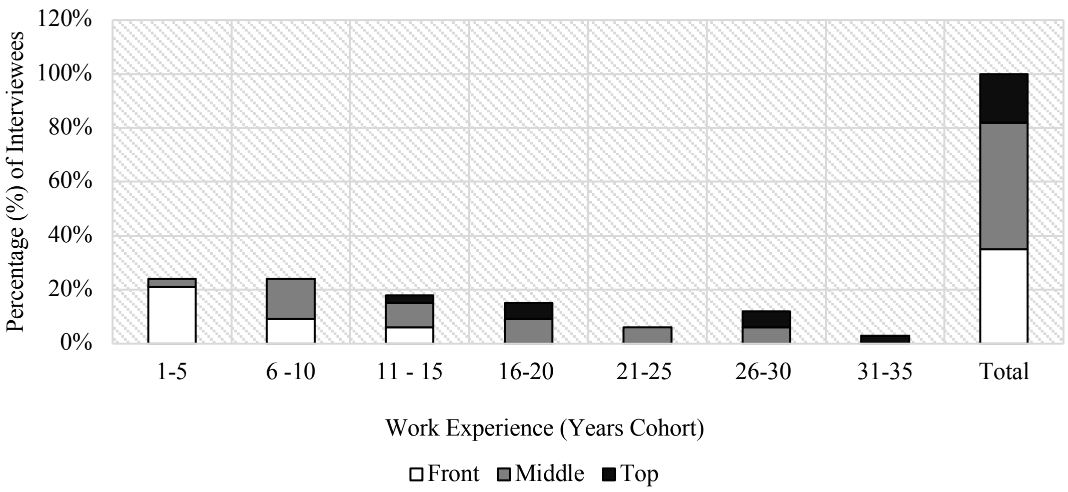

Figure 4.3: Management Level and Work Experience of Interviewees

Source: Field Survey (2016)

4.3.1 Views of Stakeholders on Mortgage Finance Underdevelopment

As indicated earlier, nine principal categories of factors emerged from the Grounded theory analysis of the interviews as limiting factors of mortgage finance development in Ghana as conceptualised in Figure 4.4. Interviewees conceive mortgage finance development as having two dimensions: access and depth. These two dimensions of mortgage finance development are considered as being driven by the nine principal factors, some of which are multi-dimensional and indicate the many different ways those factors manifest. This description applies to categories like macroeconomic challenges, culture, and legal institutional weaknesses. Macroeconomic challenges comprise two sub-categories – weak monetary and fiscal policy management as listed below: *high inflation rates; high-interest rates; exchange rate fluctuations; low incomes; lack of long-term loanable funds; budget deficits and excessive government domestic borrowings*. Cultural constraints comprise four sub-dimensions: *debt aversion, relational financing; structured payment issues; and social status problems.*

Four main institutional weaknesses were also identified. These are legal institutional weaknesses, credit *information sharing weaknesses, land administration weaknesses and planning risk.* Although there are many limiting factors, they are not equally important to the interviewees as shown the web charts in Figures 4.5 and 4.6. Figure 4.5 presents the results of the relative occurrence of each factor expressed as a ratio of the occurrence of each element to the sum of the total occurrences of all factors.

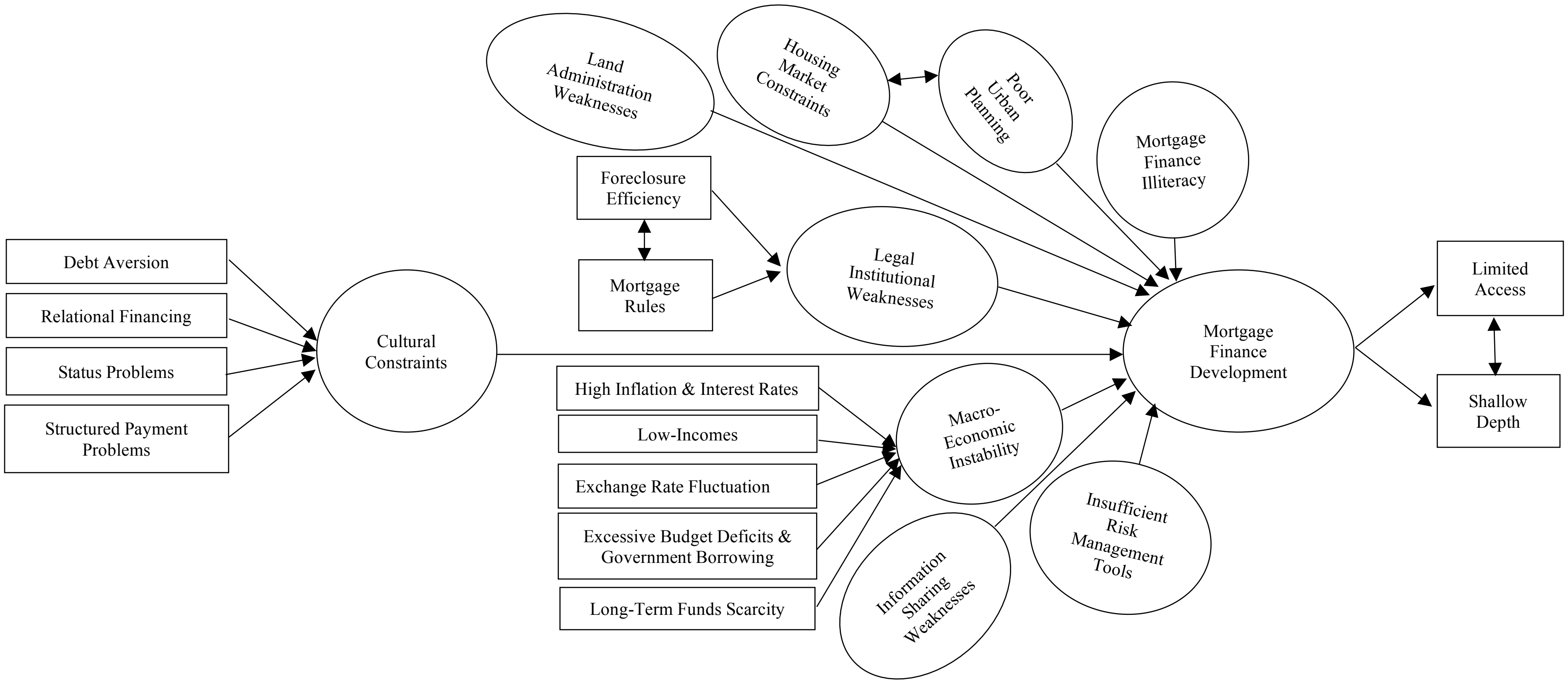

Figure 4.4: Conceptual Model of Mortgage Finance Development in Ghana.

The output is further expressed as a percentage and thus can be interpreted as the percentage of the total occurrence of all category of factors that is attributed to a particular factor. This measure considers the factors as independent of each other and thus allowed respondents to identify more than one factor as important, which were explicitly ranked by them. According to this measure of importance, the most common limiting factor is macroeconomic challenges (19%), and the least common factor is low levels of financial innovation (1%). The second most popular factor is housing market constraints (16%), followed by land administration weaknesses (15%); and credit informational sharing weaknesses (14%). The other factors are financial illiteracy (12%); legal institutional weaknesses (11%); culture (10%) and planning risk (3%).

Also, Figure 4.6 presents the limiting factors that stakeholders wanted resolved immediately given the limited resources available to the state. It is an alternative relative importance measure that expresses the total occurrence of each factor as a proportion of the total number of respondents. The output is further expressed as a percentage and thus can be interpreted as the percentage of respondents who identify a particular factor as the most problematic. In this case, each respondent compared the factor categories on a mutually exclusive basis and reported only the one factor they believed limited mortgage finance development the most among the list of factors they identified earlier. In other words, this represents respondents' express opinion of what constituted the most significant constraint to the development of mortgage finance. Similarly, macroeconomic challenges emerged as the most critical factor, representing about 41% of all respondents. Land administration weaknesses and legal institutional weaknesses then follow with 24% and 15% of respondents accordingly. Mortgage finance illiteracy and housing market constraints were scored equally (6%) about the percentage of respondents. Three percent each of the respondents attributed the low level of mortgage finance development to culture, information sharing weaknesses, and low level of financial innovation.

A few conclusions can be drawn from Figures 4.5 and 4.6. The two figures also represent differences in historical constraints and current challenges respectively. Figures 4.5 and 4.6 are similar and relatively stable but for improvements in some of the necessary conditions for lending; that is, the credit information infrastructure and creditor legal rights and their enforcement. Except for these fundamental improvements, most of the constraints like planning risk, housing market constraints, mortgage finance illiteracy and low financial innovation have persisted through time, at least in the last four decades. Hence, the bottlenecks that have seen some improvements like creditor foreclosure rights and the availability of credit information are less of a problem currently as depicted in Figures 4.5 and 4.6.

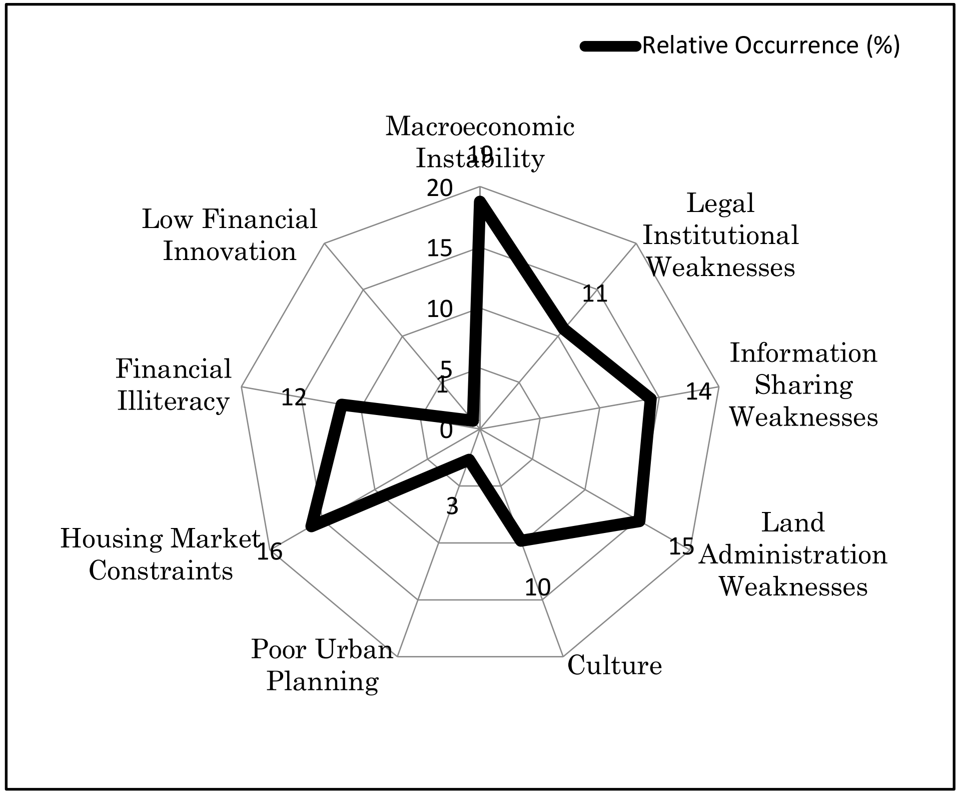

Figure 4.5: Relative Importance of Historical Limiting Factors

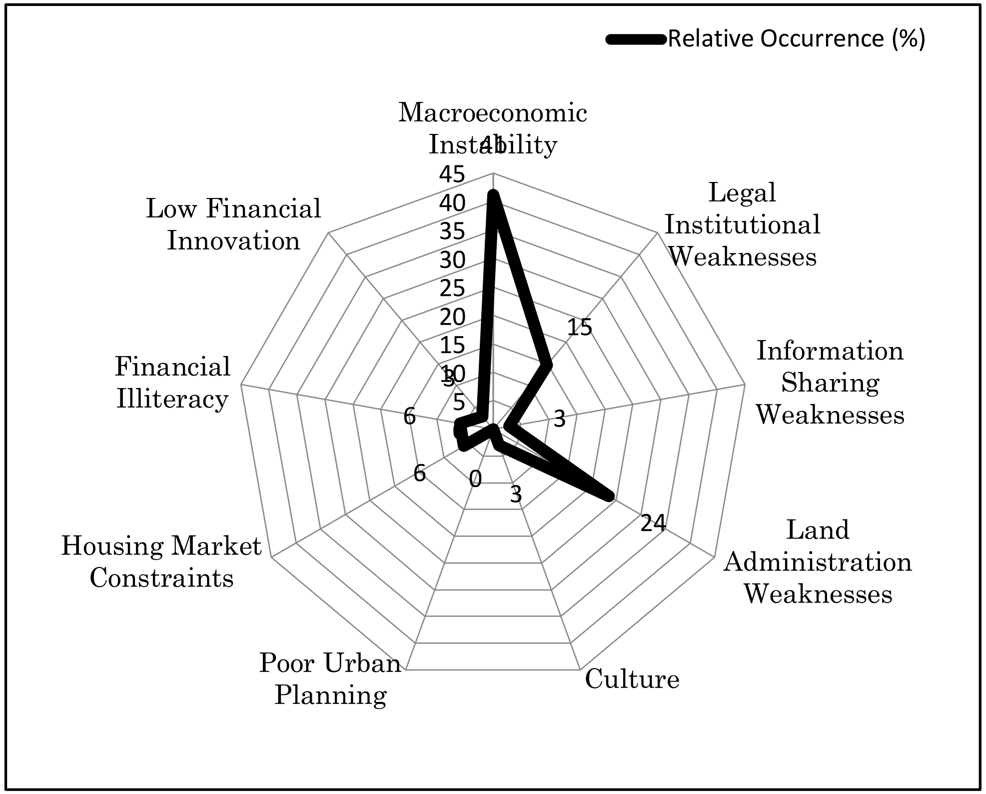

Figure 4.6: Relative Importance of Current Limiting Factor

Source: Survey (2016)

The data shows differences in interviewee responses with regards to the constraints to mortgage growth as shown graphically by the stacked bar charts in Appendix K. They illustrate the proportions of each constraint that is explained by some of the characteristics of the interviewees as discussed earlier – field (industry) of work, work experience, management level and education. Most interviewees (79%) working in the real estate industry and the majority of interviewees (73%) with economics, finance and accounting backgrounds perceive macroeconomic instability as the most problematic factor. There was unanimous agreement by most frontline (23%) and top management respondents (27%) that macroeconomic instability is the most relevant constraint to the mortgage lending business. Conversely, most middle-line respondents (21%) pointed to land administration weaknesses.

Except for respondents with 21 – 25 years of working experience, macroeconomic challenges still dominate as the most difficult constraint across all other experience cohorts. These cohorts are 1 – 5 years (20%); 6 -10 years (23%); 11 – 15 years (21%); 16 – 20 years (20%); 26 - 30 years (25%); and 31 – 35 years (50%). Notwithstanding, other factors were identified as equally important among some of the experience cohorts. For example, 50% of respondents with 31-35 years of experience believed that legal institutional weaknesses are as important as macroeconomic instability. Twenty percent of respondents apiece with 16 – 20 years experience submitted that housing market constraints and land administration challenges are equally important as macroeconomic challenges. Last but not the least, housing market constraints again emerged as the most important among respondents with 26 – 30 years of experience.

Apart from the respondents working in insurance, the majority of respondents across the other industries consider macroeconomic challenge as the most critical factor to be resolved. These industries are mortgage (26%), banking and finance (17%), real estate (17%), academia (21%), and research (60%). Just like the experience variable, some factors emerged as equally crucial as macroeconomic challenges across respondents from the real estate and the insurance industries. An equal percentage of the real estate respondents (17%) view culture, land administration weaknesses and credit information sharing vulnerabilities with the same level of importance. Likewise, the insurance respondents (25%) consider mortgage financial illiteracy, housing market constraints and information sharing weaknesses as parallels.

To explain these differences, we examine the differences in eight respondent characteristics using a Chi-square test. These characteristics are gender, age, work experience, education (subject studied), educational level (postgraduate or undergraduate), management level (frontline, middle-line, and top), industry of work, and international experience of respondents. International experience is measured with respect to whether a respondent had worked or studied in a related field abroad before. The test results presented in Table 3.2 indicate that only education in terms of the subjects studied by respondents is significant in explaining differences in responses but weakly (at 10% significance level). The estimated Chi-square value of 43.639 is higher than the Chi-square critical value of 42.59. This result indicates that the differences between what we expect and our observations are too high to be explained by chance alone.

Two main conclusions can be drawn from these results. First, the findings suggest that there is a remarkable consensus among industry players about the bottlenecks of the mortgage market and their relative importance. This result is valid irrespective of the industry a respondent is affiliated to, his work experience, age, gender, level of education, managerial expertise, and international experience in mortgage financing. The results, therefore, provide an evidence-based for developing and targeting specific and appropriate interventions towards the resolution of the problems identified. Besides, this consensus could contribute to the effective implementation of interventions by mitigating contentions among stakeholders a priori.

Table 4.2: Interviewee Characteristics and Differences in Responses (Chi-Square Test)

Interviewee Characteristics	Degree of Freedom	Chi-Square Critical Value			Chi-Square Estimated Value
		P-Value = 1%	P-Value = 5%	P-Value = 10%	
Work Experience	48	73.683	65.171	60.907	38.896
Education (Subject)	32	53.486	46.194	42.585	43.639*
Education (Level)	8	20.090	15.507	13.362	3.891
Management Level	16	32.000	26.296	23.542	10.921
Age	64	93.217	83.675	78.860	54.022
Gender	8	20.090	15.507	13.362	5.532
Industry of Work	40	63.691	55.758	51.805	44.855
International Experience	8	20.090	15.507	13.362	7.348

Note: Statistical significance is represented by *, **, *** for 10%, 5%, and 1% levels, respectively.

4.3.2 Discussion of Limiting Factors

So far, the results from the analyses of the interviews have been presented. In this section, a discussion of the details of each of the identified category of constraints is provided in the order of importance suggested by the interviewees as depicted by figure 4.5.

4.3.2.1 Macroeconomic Challenges

Historically, since the late 1960s, macroeconomic instability has been a significant setback to mortgage finance development. According to the interviewees, it distorts price signals and increases the perceived risk of default. From the interviews, macroeconomic instability is characterised by two dimensions: weak monetary policy and a weak fiscal policy space. Monetary policy concerns are multi-dimensional and revolve around a risky lending environment typified by high and volatile inflation rates, excessive exchange rate fluctuations, high monetary policy rate[20], and the lack of long-term loanable funds. The high monetary policy rate – averaging 18% from 2002 to 2017 - that influences the bank base-lending rate, for instance, is considered as a constraint to the raising of loanable funds because it increases the cost of funds. The last three years have seen policy rates above 20% - it was 21% in 2014, 26% in 2015 and 25.5% as at January 2016. Coupled with persistent high inflation rates - reaching 40% in 1995 - risk and margin-adjusted mortgage rates have been well above 20% in the last two decades. Consequently, the average mortgage rate was 30% as at March 2017. The effect of macroeconomic instability on mortgage growth is expressed in the view below:

> *"The basis of the problem we know is the base rate from the Bank of Ghana. That is where it all starts building from. Already from the start, the base rate is high, so technically all other rates built on that will naturally be high because aside just the base rate, we are also looking at borrower's creditworthiness and foreclosure risk. If we get the fundamentals of the economy right, the interest rates can come down" (Emmanuel, Survey 2016).*

Besides, fiscal policy constraints like budget deficit financing through higher yields on government securities like the Treasury Bill - averaging 25% from 2002 to 2017 – has had two adverse effects on mortgage finance development. First, interviewees argue that it consistently crowds out the private sector financial institutions, depriving them of the needed loanable funds. A more recent exemplar of the crowding out effect was cited as the low uptake of the GHL Bank's mortgage-backed bond issuance in 2016. The back story is that GHL Bank (formerly, the Ghana Home Loans Limited), which is the only specialist mortgage firm and the current market leader, made efforts to raise funds through the issuance of bonds to finance its mortgage lending business, but uptake was below expectation.

The Securities and Exchange Commission (SEC) of Ghana in 2016 granted GHL approval to establish a Domestic Medium-Term Note Programme in the bid to improve its funding and liquidity position. The programme will enable GHL to raise a total of US$ 100 million or GHS 380 million from the domestic market. Its first issuance of mortgage-backed notes, offering a five-year tenor, an interest rate of 8% and worth US$ 5 million is listed on the Ghana Fixed Income Market (GFIM). The high-interest rate on government (risk-free) instruments was cited among other things by two authoritative sources as a constraint to the ability of the firm to raise the much-needed loanable funds for their mortgage lending activities. At the time, the Government 182-days T-Bill instrument was

[20] The monetary policy rate is the basic rate at which the central bank lends money to commercial banks.

offering about 24% per annum, compared with 8% on the bond (in dollars). The Chief Operating Officer of GHL puts it this way:

> *"The timing was probably wrong, we came out in August, which is a holiday month, and at the time, T-Bills were high. It was around 24%; we were offering 8% in dollars so it didn't seem quite attractive, so people were constantly reminding us they can get T-Bills at 24%. If we came out today, now that T-bills are 12%, we will probably get a better response" (Kojo, Survey 2016).*

Given that the average T-Bill rate in the last five years has been well above 20%, it had the better chance of delivering better returns apart from its superior liquidity in the wake of potential political instability (after the elections in 2016) posing a threat to investments. Historically, the run-off periods for elections have often experienced investor withdrawals given inherent political instabilities like those experienced during the 1966 – 1981 period. However, irrespective of the political risk, the risk-free Government T-Bill rates both historically and at the time of the bond issuance offered investors a better deal, thus crowding out private businesses.

Secondly, financial institutions, mainly the deposit-taking institutions have become conduits for channelling deposits to the government, and thus starving other economic sectors such as housing, of the needed investments for growth according to participants. These issues they opine combine to exacerbate mortgage affordability and thus limit the ability of banks to engage in mortgage lending. This view is consistent with the findings of Ansah (1996). According to some participants, there is no rational reason for taking a risk when Government instruments provide enough returns at no risk, as captured below:

> *"If I go out there that I am selling credit, I am sure I will find many people. Like many developing countries, demand always exceeds supply. But we don't have the structures to support lending - there are no address systems, credit-referencing systems are weak, land registration systems are weak. So, if I cannot trace a borrower and his assets, why should I lend to him when government securities provide high returns at no risk. It will be economically senseless to do that" (Robert, Survey 2016).*

4.3.2.2 Housing Market Constraints

Housing market constraints identified by participants are related to the demand, supply, and the quality of housing. Respondents revealed that intimately linked with urban planning problems is a shortage of quality houses in well-planned locations that are affordable to the majority of potential homebuyers - low and middle-income households. The formal housing market at present and for the most part of Ghana's history has been dominated by the high-end housing market. Many reasons ranging from adverse regulation, low profitability and affordability problems in the low and middle-income housing market, and piecemeal housing policymaking were suggested for this market outcomes.

Adverse regulation regarding rent controls is a historical matter believed to be exerting a path dependence effect on the delivery and financing of low and middle-income housing as has been identified elsewhere[21]. Ball (2013; 2003) for instance observed that dissimilarities in regulatory and institutional frameworks account for variations in housebuilding industries. In 1986, the Rent Control Law (P.N.D.L[22] 138) was enacted to control the rent payable on single or two-bedroom residential accommodation. This law applied to housing supplied by both the private-rented market and the state housing corporations such as the Tema Development Corporation and State Housing Corporation. In fact, the whole idea of rent regulation goes back to the 1963 Rent Act (Act 220). These laws are believed to be tilted in favour of tenants to the detriment of landlords and investors. Therefore, as a disincentive to investment, many investors switched to the delivery of high-end housing, which was unregulated[23]. This investment behaviour has continued to the present day according to participants.

However, it would have been expected that investors would return to the low and middle-income housing market once the rent controls were removed during the implementation of the International Monetary Fund (IMF) and World Bank-sponsored structural adjustment programme (SAP), especially in the late 1990s. The SAP was designed to arrest the extended period of economic decline that characterised the period between the 1960s and 1970s through the implementation of economic policies that aimed at improving economic efficiency, particularly resource allocation efficiency and increasing the economy's resilience to changes in its domestic or global market[24]. Thus, while the SAP restored the price mechanism, liberalised the economy and removed the distortions to price by the rent control, affordability problems emerged due to low income-levels and hikes in land prices and interest rates. Although all the dramatic increases in the cost of land on both developed and undeveloped cannot be entirely attributed to the SAP, it, however, spurred policies like currency devaluation and hikes in interest rates (ibid.). This view was captured in the following lines:

> *"if we had a housing market ... where there were houses being built for all kinds of income levels, it will to a large extent help with mortgage market development…" (Dansoa, Survey 2016).*

Therefore, according to participants, investors have abandoned the low-cost and affordable housing market due to many reasons including the relatively low profitability associated with those markets. In the view of some respondents who work with property developers, a little improvement and investment in luxury in term of finishing and furnishing could enable a house, which would otherwise pass for a middle-income house to be sold for an amount far more than the price of an affordable middle-income house. Thus, relatively high profitability expectations in the upmarket and distorted

[21] Malpass and Murie (1994) and Mullins and Murrie (2006).
[22] Provisional National Defence Council Law.
[23] Willis and Tipple (1990); Malpezzi, Tipple and Willis (1990).
[24] See Konadu-Agyemang (2001).

prices in the down market owing to rent controls may have led to capital and investment flight from the down market to the high-end market, where the need was relatively low.

Beyond the regulatory and affordability constraints, the lack of policies to stimulate both public and private affordable housing supply *en mass* for different income groups, especially low and middle-income households have mainly been a problem according to participants. Housing policymaking in Ghana can be traced to the 1920s Dispossessed Person's Housing Scheme[25]. However, some participants submit that Ghana has experienced long periods of housing policy vacuum and piecemeal policymaking, at least during the three decades before the promulgation of the 2015 Housing Policy. Historically, succeeding governments have recognised this market segmentation problem and have attempted to remedy it mainly through direct state delivery for about three decades (1957 – 1993). Government provision has however been limited and has historically stalled with delivery been unaffordable to the low and middle-income households, who are initially targeted by such housing schemes[26], due to corruption[27] and underinvestment. Narrating the historical development of the formal housing market, one of the respondents illustrate the problem as follows:

> *"So, if you cannot build, then it becomes even more difficult for the prospective mortgagors to be able to have access to the buildings that they would buy. And at the time too, the main source of housing development, that's in the institutional form, was government agencies like State Housing Corporation, TDC, and other government-related organisations. The market did not favour the supply end of the business, that's the supply end relating to the houses themselves" (Amoako, Survey 2016).*

The result has been significant housing deficit in low-cost and affordable housing with the limited delivery by the informal private-rented housing market often been substandard. Participants note that substandard housing typified by the increasing number of slum areas and backyard housing expose mortgage lenders to collateral risk[28], which threatens the viability of mortgage financing. This view corroborates earlier findings made by Karley (2002). As will be discussed in detail in section 4.3.2.4, poor urban planning and weak enforcement of planning standards were identified by participants as contributory factors of the prevalent haphazard development in the country especially in urban centres like the capital city, Accra, where the mortgage market is concentrated. Therefore, to hedge this risk, it was noted that lenders prefer to finance mostly newly built housing units in well-planned gated communities (mainly in the capital city, Accra) where development controls are privately enforced. This view is expressed as follows:

> *"... well it also depends on the property. Being a mortgage, the only thing a lender has to hold onto is the property and so aside from the legal aspect of the property, the*

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[25] Its aim was to provide compensation to people whose houses were compulsorily acquired in the public interest.

[26] See Sarfoh (2010)

[27] See Arku (2009)

[28] See Karley (2002).

structure itself – the quality – is important. Some buildings will not be financed under any circumstance… Location also. Largely, location really can to an extent affect quality, not the structural integrity but … when it comes to foreclosure. Not to say that any lender is looking to foreclose on, but they always have to anticipate what is going to happen in the event that we have to foreclose, will we be able to get our money back? So you probably have a good title, but if it is located in a waterway, it is not likely that you are going to get funding for that" (Dansoa, Survey 2016).

In effect, the economic and industrial structures within which housing work seems to have locked the industry into a cycle of low investment and low innovation[29]. Ball (1996) found similar constraints in the UK housing market.

4.3.2.3 Institutional Weaknesses

Four categories constitute institutional weaknesses: (1) Weak land administration institutions, (2) information-sharing weaknesses, (3) legal institutional weaknesses, and (4) weak urban planning institutions. A combination of these categories of factors according to participants has expanded the risk associated with creditor and landed property rights and thus increased the legal and collateral risks related to mortgage lending, as discussed below.

4.3.2.3a Land Administration Weaknesses

According to respondents, these are due to the inefficiencies in the land administration system. About mortgage finance, land administration weaknesses manifest in two main interconnected ways. First, it is difficult to create many mortgages when most lands lack proper legal titles that establish formal property ownership. Before the formalisation of land ownership in Ghana, the conveyance of land by oral grants was deemed valid upon expression of appreciation with items such as kola nuts and alcoholic drinks by grantees[30]. So far as witnesses existed, this customary practice provided certainty of ownership, all things equal. Over time, however, the method became fraught with many challenges owing to the loss of institutional memory upon the demise of witnesses, the fading memory of witnesses, and the misplacement of proof of evidence[31]. Participants note the lack of a written documentation culture as having contributed immensely to the loss of institutional memory and its ramifications on inter-clan clashes and endless litigation. The effect therefore is that the ownership of many lands is uncertain.

The formalisation of land transactions, therefore, became necessary with the intention of providing a more reliable record of land transactions that guaranteed certainty and security of title[32]. This objective would be achieved with the passage of legislation such as the Land Ordinance (1883), the

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[29] Ball and Morrison (2000) provide an international comparison of housing investment fluctuations.
[30] See Bentsi-Enchill (1964)
[31] See Bentsi-Enchill, 1964; Ollennu (1962)
[32] See Kasanga and Kotey (2001)

Land Registry Ordinance (1895), and the Land Registry Act (1962). The Land Registry Act (1962) was designed to establish a deeds registry system that only contained a list of land transactions. Many participants maintain that although a register of land transactions was maintained, it was unreliable and could be challenged in the courts at any time based on the principle of '*nemo dat quod non habet'* (no one gives what he does not have). The limits of the deeds-registration system meant that transfers of land were slow, expensive, and often unable to create a secure title.

The Land Title Registration Law, 1986 (P.N.D.C.L. 152) was subsequently passed to remedy the shortcomings of the previous legislation. Along with this law came the establishment of institutions like the Lands Commission. It emerged from the interviews that beyond recording land transactions, PNDCL 152 sought to create a Torrens land registration system[33] that would provide for the registration of title[34], and thus created a permanent system in which the state was the witness to land transactions, especially the transfer of absolute interests in land. This legislation did not repeal customary practices that required witnesses. However, the absence of those witnesses would not pose a threat to the ownership of property once these transactions and their titles were registered with the Lands Commission.

Notwithstanding this benefit, participants observed that the effect of operating a Torrens land registration system is that deeds are no longer acceptable as proof of land ownership. Unfortunately, however, most lands in Ghana are unregistered, and many of the registered lands do not have legal titles as required under the new Torrens dispensation. Records have it that only 30,000 of the 6,000,000 land parcels in Ghana were registered under PNDCL 152, and an unconfirmed number also registered under the deed registration system (World Bank, 2011). Many reasons were suggested by the participants for the inefficiencies in land administration and management process. These include the fragmentation and lack of coordination among land administration institutions[35] and prolonged process of title registration from one to five years due to the complexity in dealing with the six separate land agencies[36].

Consequently, collateral-based lending, especially where real property is the security for a loan such as residential mortgages has been constrained. Contrary to Domeher and Abdullai (2012), many of

[33] The Torrens title system operates on the principle of "title by registration" (granting the high indefeasibility of a registered ownership) rather than "registration of title." The system does away with the need for proving a chain of title (i.e. tracing title through a series of documents). The State guarantees title and is usually supported by a compensation scheme for those who lose their title due to private fraud or error in the State's operation.

[34] See Agbosu (1990).

[35] See Karikari (2006); Kasanga and Kotey (2001); Obeng-Odoom (2015).

[36] Office of the Administrator of Stool Lands (OASL), the Land Valuation Board (LVB), the Town and Country Planning Department (TCPD), the LC, the Land Title Registry (LTR) and the Survey Department (Gambrah, 2002).

the participants asserted that financial institutions to a large extent are not likely to accept unregistered and untitled land as providing adequate certainty and security of the ownership of property, which is the subject matter of a mortgage as conveyed in the account below:

> *"Those who are bold enough and willing to use their property [as collateral] also have a problem. One is the registration process – it is so long that some abandon the process and go ahead to develop their properties. But you know with mortgages, you will need documentation - proper documentation. If you don't have the documents, you cannot use your property in the first place. Technically, the property doesn't belong to you because you haven't registered it. The state doesn't recognise your ownership, and therefore, the banks or the financial institutions will also not recognise you as the owner. So, you may be willing to use your property to secure the loan, but your title is defective because you haven't registered" (Ofori-Dankwa, Survey 2016).*

Participants further observe that many of the problems of the old land registration system persist, despite the merging of the hitherto six land agencies in 2008 to form the new Lands Commission[37]. The merger occurred under the Lands Commission Act, 2008 (Act 767) as a result of the implementation of the Land Administration Project (LAP). To achieve the ultimate aim of reducing the number of boundary disputes and conflicting land claims to ensure security of tenure[38], component three of the first phase of the LAP focused on land titling, registration, valuation, and information systems (World Bank, 2013). The complete digitisation of the title registration process and follow-up procedures are yet to be achieved although there have been gains in the turn-around time for processing land documents, from more than 36 months to about three months and an increase in public awareness about the process of title registration (Ehwi and Asante, 2016).

However, contrary to improvements in the land registration process according to Ehwi and Asante (2016), the second point raised by respondents is that the process of registering land is a deterrent. This outcome was attributed to still lengthy, time-consuming and costly procedures - often fraught with corruption[39]. The expensive and time-consuming property registration process is a reflection of the inefficiency of the bureaucratic processes involved[40]. In the account of a respondent below, his fruitless attempt to register a parcel of land due to the cumbersome land registration process hindered his ability to access a mortgage even from the bank he works for:

> *"…one because I couldn't get the land title…the process of getting a land title is so cumbersome" (Omari, Survey 2016).*

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[37] The NLC constitutes the Land Valuation Division (LVD), the Survey and Mapping Division (SMD), the Public and Vested Land Management Division (PVLMD), and the Land Registration Division (LRD), each with its regional branches (Gambrah, 2002).

[38] See Larbi, 2008; World Bank (2008).

[39] Unofficial payments extorted by officials of the Lands Commission - the organisation responsible for the land administration in Ghana.

[40] See Akuffo (2009).

Therefore, contrary to Domeher and Abdullai (2012), formal land registration is important in accessing credit, particularly mortgage credit in Ghana. We find that not only do financial institutions require registered and titled land and property as collateral for a mortgage; a lack of it posed a significant limitation to mortgage financing. As a result, it appears reasonable to surmise that land and property registration bottlenecks practically defines the limits to mortgage finance development as it determines the number of properties that could be mortgaged efficiently.

4.3.2.3b Information-Sharing Weaknesses

A fundamental requirement for market development is the sharing of information between contracting parties to inform decisions about exchange. However, one party, especially borrowers may hold private information about themselves and projects, which creditors may not be in the known. Therefore, some of the consequences associated with information asymmetry are market failures (Stiglitz, 2008; Wilson, 2008), principal-agency problems, externalities (Laffont, 2008), and credit rationing (Stiglitz and Weiss, 1981). These market development problems are relatively severe in developing countries like Ghana due to the lack of formal information systems, which exposes creditors to adverse selection and moral hazards.

At the sub-national level in Ghana, respondents identified weaknesses in information sharing as a significant constraint to mortgage finance development. This constraint is constituted by a lack of formal and reliable residential addressing system, difficulty in verifying the ownership of property, and credit information asymmetry between financial institutions as summed up by a respondent below:

> *"Like many developing countries, demand always exceeds supply. But we don't have the structures to support lending - there are no address systems, credit-referencing systems are weak, land registration systems are weak…So if I cannot trace a borrower and his assets, why should I lend to him" (Robert, Survey 2016).*

According to participants, references to famous landmarks, both natural and artificial, which may be permanent or temporary, such as trees and food retail joints are often used for directing people to places and properties in the absence of formal information sharing systems. This result may be the natural outcome of the lack of proper and consistent road and street naming in many communities contrary to the situation in many advanced economies. When these references are temporary, their removal increases the difficulty of locating a place or a property according to respondents. In almost all instances, loan officers have to visit the sites of properties that have been proposed as collaterals for loans to verify and assess them. As part of the process, they have to draw location maps to ease their tracking of the collateralised property. Although these transportation costs may be small, there was consensus among participants that the entire inefficient means of locating properties and verifying ownership make loan underwriting and administration difficult.

The lack of formal credit information infrastructure has therefore been a significant constraint for the most part of Ghana's history since independence in 1957. According to respondents, it encouraged rent-seeking and opportunistic behaviours among financial institutions and borrowers respectively. Before 2010 when the first private credit bureau - XDS Data – was established, salary slips and bank statements served as the primary sources of information for screening loan applications, which were only useful in confirming a borrower's employment details, income and their savings habit according to participants. It was difficult for banks to access the creditworthiness of potential borrowers in the absence of historical credit performance data. Consequently, agency risks – adverse selection and moral hazard – were rife among banks; a problem a respondent recount below:

> *"It was very difficult. Customers dribbled us all over the place. There was no cooperation among the banks. The lending activities of one bank were not known to the other banks. So, it is only when a person goes bankrupt, or a person has borrowed and is not paying, and this bank takes the person to court and maybe a journalist brings it to the newspaper, and then as a result of bank officials reading it, they will know that their customer has been taken to court. Then, if they also have problems with the customer, they will join in the suit. So, prior to the credit bureaus, it was really difficult. The banks which were successful were those that stepped up their monitoring" (Omari, Survey 2016).*

The lack of cooperation in credit information sharing was attributed to bank ownership structure. While information sharing was possible among banks with common ownership, particularly state-owned banks, such cooperation was not guaranteed by privately-owned banks in the presence of competition. The state-owned banks used to share credit information upon request based on the incentive of reciprocity. However, this incentive diminished over time with the influx of foreign banks according to one participant, as disclosed below:

> *"We use to have something we call the bankers' opinion. If ABD wanted to lend money to you, we would send a simple request to the banks where you have an account, say Merchant Bank, for them to give an opinion about whether you have an account with them, the value of your account, whether you are creditworthy, etc. But around that same time, there was an influx of many foreign banks into the system. The competition was such that banks were not even responding to the requests" (Robert, Survey 2016).*

Therefore, while the lack of competition is one of the causes of market failures, unregulated competition also limits cooperation among banks via a hold-up problem[41] and thus created a market failure in credit information sharing as noted by participants. This outcome is a clear case of a situation where the self-regulation mechanism of markets fails to coordinate the emergence of the necessary credit information infrastructure for market development. As observed by participants, this

[41] The hold-up problem is a situation where two parties may be able to work most efficiently by cooperating but refrain from doing so because of concerns that they may give the other party increased bargaining power, and thereby reduce their own profits.

behaviour occurs because of self-interested economic agents behaving rationally irrational. On the one hand, a non-cooperative behaviour is rational because it enables the financial institutions to thoroughly enjoy the benefits from investing in the establishment of an internal credit information system. On the other hand, this behaviour is irrational considering the opportunistic behaviour that could be fostered among borrowers given the information asymmetries that may exist among financial institutions as recounted above. This result is a paradox considering the risk to business sustainability that may arise from potential agency risks posed to the financial system when credit information is not shared among players.

The lack of credit information sharing among banks however may not necessarily result from a lack of state regulation – credit reporting laws – but the risk of reciprocity and the potential loss of business due to competition. Paraphrasing the views of some participants, when a bank's investment in information gathering creates positive externalities for their competitors (by becoming a public good through sharing) without corresponding reciprocity, it increases its risk of losing customers and business subsequently. Therefore, in the absence of reciprocity guarantees and state regulation that mandates equal credit reporting and credit information sharing, lenders behave rationally protected their private interests by hoarding credit information, which exacerbated information asymmetry as a winning strategy. The ramifications of such sub-optimal strategies are three-fold according to the respondents. First, potential borrowers are limited to their account-holding banks, and that constrains their choice of bank and product offerings, which in itself could result in suboptimal outcomes. Second, borrowers had to operate more than one account over time with different banks as of necessity to afford them the opportunity to adequately signal their quality and hence increase their potential of accessing loans. Third, it created rent-seeking behaviours among banks. Since potential borrowers are highly likely to be credit rationed by lenders who do not hold their accounts, those who do could opportunistically charge them higher interest rates.

Credit information sharing efficiency has however improved since 2010 through the establishment of three private credit bureaus as an outcome of the passage of the Credit Reporting Act, 2007 (Act 726). These are XDS Data Ghana, Dun and Bradstreet and Hudson Price Data Solutions. The implementation of the law is, however, fraught with two main compliance challenges according to a respondent. First, some financial institutions fail to report credit transactions to the credit bureaus, mainly when loans are reviewed after lending. According to the respondent, low compliance in credit reporting may be due to the fear of exposing their best clients to poaching by other financial institutions. Thus, it may not be surprising if financial institutions are reporting credit information on only their bad clients who may not be creditworthy. Although that information may be useful to other institutions for screening their loan applications, such clients may pose a higher risk to them and hence may be credit rationed. The overall effect is that the importance of establishing a credit referencing system to credit screening, pricing and financial access may be compromised.

Second, there is a one-month operating time lag in the updating of credit information by the credit bureaus. Participants from the banks are aware that this gap may expose the entire system and financial institutions to opportunistic behaviour by borrowers aware of this gap. Creditors may advance a loan to an already debt-burdened client due to inefficient information sharing or slow information discovery, which may constrain the efficient allocation of credit. These constraints are captured in the account below:

> *"Often, the data is not updated. The banks play some games. When they review the customer's facility…they don't give the information quickly. When you go there, you may find out that a customer is not owing, and it is all because he might have paid off but has accessed a new credit, the information has not been passed on to the credit bureaus (Omari, Survey 2016).*

So then, while a total lack of credit information sharing is undesirable, it is also likely that the shared information may only partially reflect the creditworthiness of potential borrowers. Such partial information has the potential to misinform the credit allocation decisions of financial institutions. Over time, adverse selection and moral hazards resulting from inefficient credit allocation may cause the affected financial institutions to lose trust in the information supplied by the credit bureaus. There is, therefore, a need to improve compliance and the efficiency of the process, perhaps, through stronger enforcement of the Act by the Central Bank (Bank of Ghana), to maximise the benefits of credit information sharing to the financial system and development.

4.3.2.3c Legal Institutional Weaknesses

One of the empirical regularities we confirm in the cross-country study in chapter three is the importance of a robust legal institution to mortgage deepening and financial development. Law is needed first for sanctioning an exchange activity such as lending in addition to defining the rights and responsibilities of contracting parties as well as prescribing remedial mechanisms when breaches occur. This is a matter of legal rule, which is well supplied by the Ghanaian legal system according to participants. Unlike some developing countries, mortgage finance in Ghana has been prioritised with some laws[42] since 1972. There are at least three legislations that directly affect mortgage financing: Home Mortgage Finance Act, 2008 (Act 770); Borrowers and Lenders Act, 2008 (Act 773); and the Mortgages Act, 1972 (N.R.C.D. 96). Therefore, the challenge with development of mortgage finance in Ghana is not the lack of mortgage laws as noted by some respondents.

[42] The mortgage market has seen three specific laws. The first was the Mortgages Act (formerly a decree), 1972 (N.R.C.D. 96), which is still operational. The Housing and Construction Decree (N.R.C.D 135) and the National Mortgage Financing and Guarantee Scheme Act were passed in 1972 and 1976. As a remedy to the limitations on foreclosure imposed by the Mortgage Act, the Home Mortgage Finance Act (P.N.D.L 329) was passed in 1993 to grant foreclosure rights to participating lenders, particularly the then Home Finance Company (now HFC Bank), which was major Government intervention in the history of mortgage finance development in Ghana.

They opine that the challenge with the legal institution as it became clear from the interviews is that a combination of legal rules relating to investor and creditor rights and the characteristics of the law (i.e. contract) enforcement mechanisms have historically been the setback to its development. Two schools of taught emerged from the interviews. First, some respondents identified the cumbersome procedures, lengthy time and the high transaction costs associated with the judicial sale process (of the collateral in the event of a default) as the primary challenge. According to this school of thought, these challenges created and heightened the uncertainty surrounding creditor's ability to realise their rights by way of enforcement of the mortgage contract in the event of default. This in effect made mortgage lending unattractive to banks, which was the position over three decades (1972 – 2008), until the Home Mortgage Finance Act, 2008 (Act 770) was promulgated to cure the defect in the law as recounted below:

> *"Under the old mortgage decree, the process of as it were foreclosure, was so cumbersome, so difficult that it made it easier for somebody to default and not be bordered. Because to be able to foreclose and sell the mortgaged property, you had to go through a very long legal process" (Amoako, Survey 2016).*

According to a respondent, *"an unenforceable law was as good as no law"* (Gavu, Survey 2016). Creditor rights were weakened as a result, which was revealed by some respondents in their assessment of the effect of the law enforcement system on creditor rights protection. This view is expressed in the response below:

> *" ... but some of these things, before they can do that, they must go to the court, and the court system doesn't deliver justice quickly and therefore, they feel not protected even though those provisions are in the law" (Ofori-Dankwa, Survey 2016).*

Contrary to the limitation imposed on foreclosure by the Mortgages Act, the new Home Mortgage Finance Law, 2007 (Act 766) grants non-judicial foreclosure rights to lenders in Section 20(1)[43]. Actions brought under the Act are to be commenced by a motion on notice[44] under the High Court (Civil Procedure) Rules, 2004 (C.I. 47). This is a decidedly speedier method of bringing a matter before a Ghanaian court than through the regular issuance of a writ. The relative efficiency of this new mechanism provides support for the second school of thought that the legal institutional framework is sufficient for mortgage financing on the contrary. According to this school of thought, the foreclosure process has been enhanced by the operation of the collateral registry, which is a more

[43] Section 20(1) says that: "a mortgagee may sell the mortgaged property if a mortgagor fails to carry out an act or acts secured by the mortgage".
[44] In a motion on notice, an application is simply made to the court and served on the respondents. The respondents may file an affidavit in opposition. The court may or may not call upon the parties to argue. The judge may rule based only on the supporting affidavits. Particularly also, the sale of the mortgaged property on default may be done without recourse to the court according to Sections 12(b), 13(3), 14(2) and 20(2) of Act 770.

efficient way to register mortgages compared with registering with the Lands Commission. The Lands Commission is mandated by law to register landed transactions including mortgage liens. Besides the law, they believe that the life insurance policy requirements by the banks as part of mortgage contracts add another layer of creditor protection. It secures the repayments even upon the demise of the borrower, hence minimising default risk. This view is conveyed in the lines below:

> *"I think that mortgage institutions to a large extent are comfortable and do feel secure. It's not as tedious as everybody thinks it is to get foreclosure. It follows a very straightforward process and barring unforeseen circumstances, and it is pretty simple…Recent developments in that area have made it a lot easier. Aside from the legal process of foreclosure, we also have what we call the collateral registry, and so when someone takes a mortgage, it is registered at the collateral registry. Using the collateral registry, it is quicker than going through the whole foreclosure process" (Dansoaa, Survey 2016).*

A salient point worth noting from the quotation above is that perceive legal risk varies depending on the financial institution and the design of its mortgage offerings. Unlike most of the commercial banks, specialist mortgage firms like the Ghana Home Loans require both life and home insurance policies from potential borrowers. Life and home insurance policies are needed to deal with the additional risk of longevity associated with lending and unforeseen eventualities that may adversely affect the economic value of the collateral respectively. Except for Fidelity Bank, Cal Bank and Stanbic Bank, the commercial banks predominantly offer short-term loans that do not have many of the risk characteristics of mortgage loans. For instance, these short-term loans like personal loans are usually unsecured; hence, these banks may discount the need for a more efficient collateral administration regime such as the one provided by the new collateral registry.

However, while the legal rules and their enforcement may not be significant problems in recent times due to the superior remedies provided by the Home Mortgage Finance Law, it is difficult to conclude that the legal institution does not play a role in explaining the low level of mortgage market development. The relatively efficient non-judicial foreclosure process is not entirely decoupled from the inefficient court system, especially if peaceable repossession of the security is not possible. Historically, lenders have also had to contend with the inefficient bureaucracies involved in the judicial sale process to recouping outstanding debts. It is, therefore, possible that as a cognitive institution (Pistor, 2002), memories of the limitations and experiences of lenders under the N.R.C.D. 96 may still be influencing considerations of whether to offer mortgages or not.

This view is supported by the fact that some of the participants still refer to the prohibitions in N.R.C.D. 96. This may be an inertia which is perhaps due to their lack of awareness of the current position of the law regarding the superior remedies provided by Act 770. This may be some form of inertia that could constrain the adjustment of strategic decisions, such as whether to offer mortgages or not, to the improvements achieved. This inertia also points to the idea that minor changes in legal rules, although necessary, may be weak signals of creditor rights protection without effective enforcement mechanisms. This may be the case especially when political instability and property rights have been deliberately constrained historically on ideological grounds, as we will come to understand in the next chapter.

4.3.2.4 Planning Risk

Respondents reckoned poor urban planning as a factor that has negative repercussions on the development of mortgage finance. Despite the implicit assumption of an optimum level of planning, poor urban planning was however not expressly defined. What emerges from the responses is instead a notion of uncontrolled developments based on self-organisation. Self-organisation is a feature of complex systems and spontaneous emergence of coherent structure out of local interactions, independent from external coordination[45].

Such autonomous emergent structures and patterns could be both positive and negative. In the context of the Global South, including Ghana, self-organisation has often resulted in unfettered urban expansion in cities that have negative repercussions on land and property values that constitute the subject matter of the security of a mortgage. Location is well acknowledged in the literature as a significant factor if not the primary determinant of the economic value of real property[46]. Despite emerging evidence of slow or stagnated urbanisation, particularly in Sub Saharan Africa[47], there is a consensus that its accumulated impacts over the years, poses various challenges to urban growth management and sustainable development.

Participants note that these expansions are occurring through interrelated processes of infilling, expansion and outlying[48]. Infilling results in relatively compact and consolidated physical development. The problem according to participants, however, is that physical development precedes physical planning. Without proper development controls and the inability of the planning system to deliver affordable housing, infilling is causing many of the towns and cities to grow into slums according to respondents. This is attributed to the age-old weakness of the planning institutions often due to under-resourced planning enforcement mechanisms. Wyatt (2011) found similar challenges in the Caribbean. Since the value of real property depends on environmental factors such as location, slums and backyard housing expose properties to collateral risk[49] as observed by participants. Therefore, decent formal housing is only available to the wealthy minority, who often live in ‘superstar' areas of cities like Accra[50].

[45] See Portugali (2011; 2006); Heylighen (2008).
[46] See Owusu-Ansah (2012).
[47] See Potts (2012).
[48] See Wilson et al. (2003).
[49] See Karley (2002).
[50] See Buckley and Mathema, 2007a; Abdullai and Ndekugri (2007).

Housing development in peri-urban areas is the main route to homeownership for the masses. However, suburban expansion is characterised by unconsolidated lateral physical expansion and sprawl. This phenomenon is driven by the need to accommodate rapid population growth[51]. Respondents note that such peri-urban areas however often lack the necessary infrastructure such as proper transportation links, electricity, water and shopping centres that enhance the marketability of real property. The value of collateral may thus be adversely affected as could result in strategic defaults and foreclosures[52]. Therefore, financial institutions like the HFC Bank would not provide mortgage facilities for properties outside a 40-45 kilometres radius from a district capital or a capital city as expressed below:

> *"The property has to be within 40-45 kilometres radius from a district capital or a capital city. This is because; the property should have an economic value. For example, if you go to my village, where there is no economic activity, and something happens, one, the value of the property goes down; two, it becomes difficult even to find somebody to buy"(Bonsu, Survey 2016).*

Respondents attribute these shades of planning risk to inadequate and inappropriate institutional structures. This attribution is similar to Tetteh's analysis (pp. 22–30) of the 'role of Architecture and Planning' in the *Future of our Cities*[53]. They highlighted the lack of collaborative planning between the central and local governments in Ghana. Whereas the central government takes the responsibility of planning the cities, city authorities are tasked with controlling the development they did not plan for. Given that these local government authorities are often under-resourced both regarding human capital and finance capital, they are unable to implement these imposed urban plans to control development. Where there are attempts to control developments, they are often inefficient with ramifications for housing supply[54]. Thus, the effect of environmental factors cannot be controlled effectively, which poses considerable risk to collateral-based lending, banks and financial system stability. Therefore, it is rational that in protecting their investments, lenders use the location of a property as an additional screening device to determine which potential borrowers get a mortgage. It is not surprising that most mortgaged properties are located in newly built gated communities where development controls are keenly enforced by private developers. There is thus a geographical effect on mortgage finance in Ghana, fuelled by spatial disparities, consistent with the findings in Italy by Aalbers (2007). These concerns are revealed in the paragraph below:

[51] See Acheampong and Anokye (2013); Appiah et al. (2014); Owusu-Ansah and O'Connor (2010; 2006).
[52] See Ambrose and Capone (1998); Adibi (1993).
[53] Future of our Cities.
[54] Ball (2010) found inefficient development controls as significant constraints on housing supply in the UK.

"Property values are driven by environmental conditions of where your property is located. So it is obvious that if you find your property in a haphazard area where planning is not properly done, certainly, it will impact on the value of your property and will also impact on how much you can take from the financial institution" (Ofori-Dankwa, Survey 2016).

4.3.2.5 Mortgage Finance Illiteracy

A literacy rate of about 77% according to the United Nations Educational, Scientific and Cultural Organization (UNESCO) indicates that Ghanaians are reasonably educated. However, the low level of financial literacy, especially about mortgage finance came up as another constraint. Respondents believe that the lack of understanding of the nature and the workings of a mortgage partly accounts for the unwillingness of some people to use it even if they can afford it. The view is conveyed in the comments below:

"The reasons being a lack of understanding of what a mortgage is. It is on various levels; there is a lack of understanding, and there is a lack of awareness. I will probably say the lack of awareness is at the forefront but even among those who are aware of what a mortgage is, the fact that they can have access to it, there is also the lack of understanding of the intricacies of what mortgages are all about" (Dansoaa, Survey 2016).

A survey of potential homeowners in Accra-Ghana by Quansah and Debrah (2015) suggested that about 80% of respondents had no clue on how to obtain a mortgage or understand the process involved. Respondents agree that low mortgage demand is expected in an economy where incremental housing is the usual way of acquiring a house. In other words, there is not an institution in mortgage markets. Until 2006, less than two financial institutions operated in this space. For example, only the Home Finance Company (now HFC Bank) effectively supplied mortgages, mainly in the capital city - Accra - between 1994 and 2006. Until the entrance of the Ghana Home Loans in 2006, there were no public education programmes on mortgages. Therefore, the lack of information due to mortgage finance illiteracy may be constraining rational decision-making by potential borrowers.

This is perhaps worsened by the unpleasant experiences that previous borrowers went through with the servicing of their mortgages. As narrated by a respondent, the HFC bank introduced the dual-rate mortgage to improve affordability. This product had a variable interest rate indexed to the consumer price index and the actual mortgage repayments indexed to wage inflation. By design, it came with an initial low interest rate (often called a teaser rate), which was expected to increase with rising inflation. Likewise, growing wages required higher repayments accordingly. However, when planned repayments increased due to rising inflation and income, some borrowers failed to raise their actual repayments. In effect, the outstanding loan balance continued to balloon until it was no long payable within the contractual period. The bank reasonably increased the mortgage term to ensure that repayment was still affordable. However, with a perpetually rising inflation rate and slow wage growth, expected repayments continued to rise, which incessantly lengthened and perpetuated the mortgage term. It would appear that there was no end to debt servicing for these borrowers as noted by the respondent. The difficulties of these borrowers soon became public knowledge and somehow misconstrued. According to a respondent, the product and the mortgage market ultimately became a deterrent to prospective borrowers. In the words of a respondent:

> *"It was so because people did not really understand the concept [talking about the negative side of the ballooning effect of the dual-rate mortgages offered by the HFC Bank in the early 1990s]. The people who should have advised them, the Originating and Servicing Institutions (OSIs) were not taking the trouble to explain to people very well" (Amoako, Survey 2016).*

Therefore, although general education is essential, borrowers require specialised knowledge and information about mortgages to enable them to make informed decisions about the best way to finance the acquisition of their houses. The lack of mortgage-specific knowledge may continue to constrain the development of the mortgage market.

4.3.2.6 Culture

Culture as an informal institution (North, 1991: 97) affects the way of life of society by contributing to different perceptions, attitudes, and behaviours in economic activities (Greif, 1994; Reuter, 2011). Deeply rooted in customs, religion, traditions and codes of conducts, it was found that culture may be vital for mortgage finance. The effect of culture on mortgage finance development can be understood against the background of many channels. From respondents, culture can be formed by rational decisions over time (due to affordability problems and information asymmetry) and behavioural attributes of individuals or groups of people in the society. These two dimensions of culture according to the respondents affect the development of mortgage finance in some distinct ways. Four main classes of behavioural attributes were identified in the responses obtained. They were debt aversion, relational financing advantages, structured payment issues, and status problems. The responses suggest that debt aversion could be a significant factor affecting the development of mortgage finance. To a large extent, debt is not seen as a strategy to get ahead but a strategy to get by when all other financing options, particularly equity financing, are exhausted, impossible or not available at material moments. One respondent likens debt aversion among Ghanaians to their laid-back attitude towards risky and violent demonstrations in contrast to happenings in some Arab countries as illustrated below:

> *"I think the answer is simple. Yes indeed because I, for example, I am risk averse. I have worked here for 21 years. I was given the mortgage loan but never utilised it. Many Ghanaians are risk-averse. In some places like the Arab countries where many people go on demonstrations, and many are killed, Ghanaians are not like that" (Omari, Survey 2016).*

In this case, the risks and uncertainties in violent demonstrations are therefore implied to be similar if not the same to those in debt financing. Certainly, debt financing may be uncertain in a less economically stable economy where jobs and incomes are regularly and consistently threatened. Therefore, debt aversion may be synonymous with uncertainty avoidance. Geert Hofstede showed that uncertainty avoidance[55] among Africans was high, indicating that they are highly uncomfortable with unstructured situations that are novel, unknown, surprising and unusual (Hofstede, 2001).

It also emerged that debt aversion may also be a product of personal values. For example, one respondent cited his active use of equity to finance all his material acquisitions as evidence of his dislike for debt. He supports this personal value with a Christian biblical text, which he interprets as a command not to owe, as expressed as follows:

> *"Yes, even myself. I don't remember going for any credit facility in any bank. I hate debt. I don't see why I should owe, especially with the interest rates. So, with anything I have done, whether a car or land I have bought, I have saved and bought it myself without any facility. Well, it is a value I decided for myself… It is the last option I give to people. Owe no one anything but love" (Gavu, Survey 2016).*

In line with borrowing in general, it was also identified that some relational financing activities among some ethnic groups, the *'Kwahus'* (a group of the Akan tribe) for instance, may be impeding the development of the mortgage market in particular and formal credit in general. The *Kwahus* are notable business people who often rely on funding from relatives like uncles, aunties, nephews and nieces, mostly connected by a line of inheritance. It is a traditional responsibility of an uncle or auntie to contribute towards the development of their heir apparent (successors). Hence, borrowing is not affected by debt aversion per se, but the source of debt – relatives, preferred to banks. Social capital formation may thus engender behaviours that may have a negative effect on mortgage credit development as found in Italy (Mingione and Nuvolati, 2003; Guiso and Japelli, 2002). This outcome may have manifested in the number of loans one of the banks recorded in one of its branches, as captured in the following lines:

> *" … some of our cultures promote borrowing among relatives. For instance, in the Eastern region, one of our banks recorded only one loan at the end of the accounting year. This is because the Kwahu's have a culture of supporting each other, from a mother, uncle, brothers and others" (Robert, Survey 2016).*

Closely linked to this cultural value is the strong attachment of people to their properties. This attachment, according to some respondents, is perhaps due to the lengthy process and efforts they

[55] Uncertainty avoidance relates to the degree to which individuals of a specific society are comfortable with uncertainty and the unknown. Countries displaying strong uncertainty avoidance index (UAI) believe and behave in a strict manner. Individuals belonging to those countries also avoid unconventional ways of thinking and behaving. Weak UAI societies display more ease in regards to uncertainty (Hofstede, 2001; 1984; 1983).

put into the housebuilding process and the desire to leave behind an inheritance to kith and kin, preferably in the form of a house. This attribute limits the usage of real property in risky collateralization and financing activities like mortgaging. In this respective, mortgage finance is seen as potential harm[56]. Further, respondents view many Ghanaians as unaccustomed to formal credit and long-term structured financial obligations[57] as is the discipline in mortgage debt servicing due to the predominance of the informal sector - about 88% of the economy (Haug, 2014). This feature coupled with high mortgage finance illiteracy may be constraining the development of the savings culture needed to raise the required down payment for a mortgage.

Moreover, perception may be a key factor affecting the choice of housing size and how it is financed. Some respondents pointed out that the capital structure of housing, matters for the status of a person in the traditional Ghanaian setting. Debt financing is believed by some people to be a sign of poverty[58]. The stigma of poverty is, therefore, a characteristic that some people attempt to avoid by staying clear of the debt market. This according to one of the respondent is the cultural dimension to the mortgage finance problem:

> *"I think what the issue is as far as cultural perspective is concerned is that nobody wants to own a small house. Culturally, we are not used to doing things progressively, we just want it big and forever. Typically, when I worked in a mortgage company, we used to have single people, extremely young people with young children wanting a three-bedroom house with a garage. It cost a lot of money but that is what they want, and I think that is what culture feeds them, not the fact that they should not take a loan to do it but the fact that our culture breeds so much on what we see and the values they will attribute to your character based on what they have seen" (Dansoaa, Survey 2016).*

Contrary to behavioural attributes, the attitude of people towards mortgage financing is also influenced by rational decisions. Having been a low-income country for the most part of its economic history since independence (1957 – 2010), long periods of macroeconomic instability, for instance, could perpetually price out many people. As argued by some respondents, this view is more rational and plausible than the claim to behavioural factors like debt aversion as a constraint to mortgage finance development. This view is captured below:

> *"I don't think we are debt averse. As long as we have a large population on low incomes, access or loan or credit will be difficult. ...it is only a few who have what it takes to access credit. So we don't have culture aversion to credit. I have never seen any group of people in Ghana whose culture prohibits them from borrowing" (Robert, Survey 2016).*

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[56] See Aalbers (2016)
[57] See Karley (2002); Ansah (1996).
[58] See Teye et al. (2015).

Respondents also revealed that people prefer to build by themselves (even some of those who can afford a mortgage), partly because of the uncertainty surrounding the quality of houses delivered by formal property developers (whose services are unregulated), coupled with a desire to customise the houses to their tastes and preferences. But even more important is the idea that people tend to choose options like self-building that enables them to supervise and monitor the construction process to mitigate housing quality issues that may arise from agency risk, although many of them may lack the technical building expertise to do so effectively.

4.3.2.7 Low Level of Financial Innovation

There are many sources of risk to mortgage lenders including legal, collateral, information asymmetry, urban planning, among others as discussed above. Some respondents lamented the inadequacy of the existing financial market infrastructure and its implication for financial risk management. While macroeconomic instability, for instance, is a source of market, credit and liquidity risks, legal and institutional weaknesses and land administration weaknesses may be sources of legal risk. According to some of the respondents, a combination of these risks has constrained the ability of financial institutions to attract more investment into the mortgage finance market. As a result, financial institutions especially banks that predominantly hold short-term deposits potentially may face substantial funding liquidity risk and maturity mismatch problems should they lend on a long-term basis as mortgages require.

During the periods of its market leadership, the Home Finance Company for example chiefly owed its existence to the long-term loanable funds supplied by the Social Security and National Insurance Trust (SSNIT) – the national pension fund. In the absence of long-term loanable funds, Karley (2009) opines that banks in Ghana have become portfolio lenders, lending when the investment opportunity fits well into their portfolio. A respondent, therefore, suggests the need for mortgage securitisation as a way to improve fundraising, liquidity and risk dispersion among investors who are better able to absorb them.

3.4 Conclusion

This part of the research provides an analysis of the perspectives of stakeholders on the nuances of the limitations to mortgage finance development in Ghana. Semi-structured interviews were conducted with a broad array of stakeholders including mortgage providers, analyst, researchers, real estate analysts and academics from 21 firms. The interviews were structured to answer questions about the perceived market limitations, how these limitations compare with each other regarding the importance, and how they influence mortgage finance development. Nine principal factors emerged from the Grounded theory analysis of the interviews as critical constraints to the development of the mortgage market. These factors include; macroeconomic challenges, housing market constraints, land administration weaknesses, information sharing weaknesses, legal institutional weaknesses, culture, financial illiteracy, low level of financial innovation, planning risk. Among these factors, macroeconomic challenges stood out as the most relevant, while the least important to respondents is the low level of financial innovation.

The results further indicate that some of these factors like macroeconomic weaknesses and culture may affect mortgage finance development in multi-dimensional ways. Income fluctuation, volatile inflation rate, high-interest rates, budget deficits, and crowding out of the private sector due to government borrowings from the domestic money and capital markets are some of the ways by which macroeconomic weaknesses may limit mortgage finance development. Rather than religion, culture constraints included a preference for informal borrowings, debt aversion, social status issues associated with debt financing, and the unfamiliarity of many potential borrowers to long-term structured repayment schemes like mortgages.

CHAPTER FIVE

DESTINY OR POLICY? EXPLAINING LEGAL INSTITUTIONAL DEVELOPMENT, CHANGE AND MORTGAGE FINANCE IN GHANA

5.0 Introduction

Narrowing down further on the institutional factors, this part of the study focuses on the effect of the historical development of the legal and regulatory framework on the development of mortgage finance in Ghana. The broad question examined here is why do some developing countries characterised by the favoured common law tradition have smaller mortgage finance markets? The following three sub-questions were employed to guide the data and analysis required:

a. Which laws have historically provided the institutional and regulatory framework for mortgage finance in Ghana before and after independence?
b. What has been the actual character of mortgage laws in Ghana?
c. How has the actual nature of mortgage laws varied from the expectation, according to the channels through which the common law tradition is expected to affect financial development – judicial independence, property rights protection, state dominance regarding ownership of financial institutions and market regulation?

The main objective here is to investigate from a historical perspective, how the transmission mechanisms through which the common law, based on the legal origins theory, is expected to influence financial development – judicial independence, property rights protection, lighter state dominance regarding ownership of financial institutions and market regulation (see LLS, 2008; La Porta et al., 1997; 1998) - have fared in the case of Ghana, a common law country.

This work has become necessary because the legal reforms of the 2007-2008 period in Ghana led to the passage of the Home Mortgage Finance Act, 2008 (Act 770), Credit Reporting Act, 2008 (Act 726), and the Borrowers and Lenders Act, 2008 (Act 773). According to respondents in the stakeholder survey in the previous chapter, these laws have now strengthened the institutional and regulatory framework for mortgage lending and general financial market development as would be expected in a common law jurisdiction according to the Legal Origins Theory. However, this has not always been the case although Ghana has had the Common law since 1874. As will be argued in this chapter, creditor rights protection has been weak historically, contrary to the theory. The is significant evidence of the abuse of private property rights, a lack of judicial independence, and heavy state dominance of banks and regulation. As the evidence typify, development of mortgage institutions has mostly resulted from state policy changes and not Ghana's destiny based on the legal origins postulations.

There are eight sections in this chapter. Following this introduction, section 5.1 provides a review of theories of financial development and some of the problems with their applicability to financial development in Ghana. The research method is then discussed in section 5.2. Section 5.3 provides a systematic review of the institutional and regulatory framework for mortgage finance, while section 5.4 summarises the salient points from the previous section. Section 5.5 presents the findings from the institutional autopsies, which are then synthesised in section 5.6, and concluded in section 5.7.

5.1 Financial Development in Ghana: Problems with existing Institutional Theories

Institutional theories of finance can be categorised into two. The first category and the dominant theories of financial development highlight the role of path dependence, operating through the legal, cultural and geographic endowments of countries, in explaining the relationship between law and finance. The second category of theories, emphasising the dynamism and importance of human agency, considers the link between politics and financial development.

5.1.1 The Legal Origins Theory

The idea that law is essential to economic development is not new. Both Max Weber in the nineteenth century and Frederick Hayek in the twentieth century drew linkages. Weber deploys the function of law in lending predictability and legitimacy to rules of market activity in explaining the rise of capitalism in Western Europe (Milhaupt and Pistor, 2008). While the role of the quality of law (property rights protection) in financial development is not much debated, the sources of quality property rights protection are controversial. Hayek intimated the relative suitability of the common law (traditionally a constraint against state authority) to market economies over the civil law. Recent scholars have reaffirmed this line of thought in what is generally known as the law and finance literature and in particular, the legal origins theory (LLSV, 1997; 1998; LLS, 2008).

In line with Hayek's assertion, the common law and civil law, reflecting the two main legal traditions in the world, have shaped lawmaking and their enforcement in ways that are immutable and hardwired with specific legal rules (LLSV, 1997; 1998; LLS, 2008; *c.f* Pistor, 2010; Milhaupt and Pistor, 2008). They are respectively friendly and hostile to market development (LLSV, 1997; 1998). This is exacerbated by the lack of reform after the initial exogenous transplants by the Europeans through colonisation or importation as well as imitation by successive governments in the former colonies after independence (Djankov et al., 2007; Guerriero, 2016a;b). Thus, these laws affect economic and financial outcomes to date in a path-dependent fashion.

The legal origins theory consequently predicts that countries that apply the Common law are associated with stronger private property rights and more financial development hence, than states that use the French Civil law tradition, with German and Scandinavian Civil laws coming in between (see also LLSV, 1997; 1998, North, 1988). By implication, it is expected that former British colonies that apply the Common law will inherit better institutions than their counterparts that inherited the French civil law. Precisely, empirical evidence reported by scholars suggest that countries that received the common law like Ghana compared with those that received the civil law are expected to display today:

> *"(a) better investor protection, which in turn is associated with improved financial development [...], (b) lighter government ownership and regulation, which are in turn associated with less corruption, better functioning labour markets, and smaller unofficial economies, and (c) less formalized and more independent judicial systems, which are in turn associated with more secure property rights and better contract enforcement" (La Porta et al. 2008: 298).*

According to Beck, Demirguc-Kunta and Levine (2003a), this happens through two central transmission mechanisms: (1) political channel, and the (2) adaptability channel.

5.1.1.1 Political Channel

The political channel argues that the power of the state relative to private property rights differs between legal traditions. The protection of private contracting rights is fundamental to financial development (LLSV, 1998). In this regard, Merryman (1985) explains that English common law developed to protect private property owners against the crown[59]; and thus promote financial development (North and Weingast, 1989). Littleton (1481) and Coke (1628) note that the 17th-century common law was primarily a law of private property. The courts supported private property owners against the King during the significant dispute between the latter and Parliament[60] - The Defence of Parliament in 1688. This event occurred when the King attempted to enforce feudal rights to meet budgetary constraints, but the courts pronounced that the law superseded the King and royal prerogatives. As a result, significant estate owners were treated as private property owners and not tenants of the King, although land ownership was fundamentally premised on the feudal system[61] of

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[59] English common law attained its modern form in the tumultuous 16th and 17th centuries when Parliament and the English kings battled for control of the country. The Crown attempted to reassert feudal prerogatives and sell monopolies to raise revenues but was opposed by Parliament. Ultimately, the Crown was unable to reassert feudal privileges and its ability to grant monopolies was also severely restricted. The courts asserted that the law is king and limited the Crown's discretion to alter property rights. Thus, in comparison with France during the 16th and 17th centuries, English common law was a source of liberty and a champion of private property rights.

[60] Parliament, which was composed mostly of landowners and wealthy merchants, together with the courts took the side of property owners.

[61] Feudal system is a system of land tenure and of government in which the landholders are the governors. The structure of the feudal system was like a pyramid, where the king was at the apex (point at the top) and the villains or peasants (common people) of the country were at the base. In between the two were several groups of people who were a vassal to those directly above meaning

King William I. According to Milhaupt and Pistor (2008), the common law is thus more protective (of private property) in function and more decentralised (in terms of enforcement) in organisation.

However, the Justinian texts — a compilation of Roman law — representing a decisive break with the Roman law, placed the French emperor above the law (Hayek, 1960). During the 18th century, the French emperor sold judgeships to wealthy families. They subsequently hindered liberal reforms and projected their interests by controlling the courts, which consequently damaged the reputation of the judiciary. Therefore, the French civil law, which resulted from the French Revolution in 1789 and shaped by the Napoleonic Code, was deliberately designed to sideline the role of a corrupt judiciary from intruding in state matters (Stulz and Williamson, 2003). However, the unification of Germany and codification of laws under Chancellor Otto Von Bismarck enabled the pursuance of liberal reforms by creating a strong legislature on one side and limiting judicial independence on the other hand. Therefore, according to the political channel, various degrees of state dominance was established in both France and Germany over private property rights (Mahoney, 2001; Hayek, 1960). The civil law is thus more coordinative in function and more centralised in its organisation (Milhaupt and Pistor, 2008).

These traditions would later have repercussions for the development of free competitive financial markets and systems. Beck, Demirguc-Kunta and Levine (2003a) opine that contrary to the tenets of competitive market ideals, powerful states are likely to divert the flow of society's resources to favoured ends through policies and institutions. They further postulate that a combination of powerful state and an irresponsive civil law is most likely to lead to financial market interference, which is inimical to financial development.

5.1.1.2 Adaptability Channel

The adaptability channel emphasizes that the ability of legal traditions to evolve with changing conditions differ (Hayek, 1960). Merryman (1985) opines that legal origins that adjust flexibly to decrease the gap between the economy's contracting needs and the capabilities of the legal system will promote financial development more efficiently than rigid systems. Debatably, the comparative law literature holds the view that, Common law evolves relatively efficiently than the French and German Civil laws. This relationship is due to the considerable discretion granted to judges (Rubin; 1977; 1982; Priest, 1977; Bailey and Rubin, 1994) on a case-specific basis in varying conditions (Posner, 1973). Thus, through repeated litigation, inefficient laws are replaced with efficient ones.

However, the Napoleonic Code, which influenced the civil law, sought to eliminate judge-made law by empowering the legislature to draft laws without gaps and conflicts. The aim was to prevent judges

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that they swore loyalty to them. Each group of people was granted land and protection by those above in return for services.

from making laws by deciding cases and exercising their discretion over conflicting statutes. Apart from the expensive nature of the exercise (Bailey and Rubin, 1994), it conflicted with local laws (Merryman, 1996). Moreover, the prohibition of judges in public discourses on the interpretation and application of legal precedents to new case (Dawson, 1968) constrained the efficient evolution and application of the law (Berkowitz et al., 2003; Zweigert and Kötz, 1998; Merryman, 1996)[62] . In what is referred to as the French Deviation[63] , the French courts responded by taking advantage of Article 1382 of the Napoleonic Code to build a complete body of tort law, which requires compensation for an injured person by the one who commits the act (Merryman, 1996; Dawson, 1968). This legal action did not, however, benefit the colonies that adopted the French civil law and therefore were stuck with legal inefficiencies. Scholars, therefore, predict that statute-based legal systems rather than jurisprudence-based legal systems — the law created by judges in the process of solving disputes — tend to be rigid about the changing environment, with ramifications for financial development. This is because flexible legal systems, which developed by jurisprudence and case law compared with statute law judgments, are more likely to minimise the gaps between the financial needs of contracting and the legal system's adaptability capabilities and vice versa (Posner, 1973).

However, as will be detailed out in the subsequent sections, the evidence suggests that for an extended period of about 68 years (1940 — 2008), the critical legal rules regulating mortgage finance in Ghana were not typical of the hypothesised hardwired and market-friendly characteristics of the common law tradition. These rules, including; interest rate controls, excessive entry barriers, loan default guarantee discriminations and complex foreclosure procedures inadequately protected creditors. In the context of the history of military rule and law-making in Ghana during the 1966 – 1992 period, judicial discretion that could have promoted legal efficiency and strengthen contract enforcement was severely abused and limited. During this period, the legal system demonstrated a

[62] England did not try to replace Islamic, Hindu, or unwritten African law and the flexibility of the common law eased its transfer. For instance, the English courts in India were instructed to apply Islamic or Hindu law depending on the faith of the parties in cases of inheritance, marriage, and, for example, caste. In Africa, judges were to apply the English law only to the extent that local circumstances permitted and matters were to be decided by equity and good conscience as rendered necessary by local circumstances (Zweigert and Kötz, 1998). While somewhat chaotic, this arguably set the stage for the evolution of an independent, dynamic common law in the post-colonial era.

[63] French deviation in the spirit of this view, efforts to eliminate the doctrine of jurisprudence under the Napoleonic Code was by-passed by the courts, who were only required to apply the law and not to interpret it as per the doctrine of stare decisis. This is because; it conflicted with France’s deep-seated long legal traditions. Many other French civil law colonies may not have recognized this deviation and are thus, yet to recover from the defects of the *static* Napoleonic legal doctrine on financial development. Notwithstanding, the German code was adopted as an explicit rejection of the French deviation (Beck, Demirguc-Kunta and Levine, 2003a). Instead, Germany established a responsive legal doctrine based on the legal science of Savigny and jurisprudence. Consequently, adopters of the Common law, German Civil code and France itself are likely to develop better institutions that will facilitate higher financial development than many French civil law colonies. Like the Justinian codification, which failed to eliminate jurisprudence substantively from Roman law, the French deviation and the German code represent the dynamic, unfinished and changing nature of Europe’s legal traditions generally (Dawson, 1960; 1968).

concentrated and coordinative character rather than a decentralised and protective character as expected.

5.1.2 Culture and Finance

North (1991: 97) categories institutions into three dimensions: formal constraints, informal constraints and the enforcement of these constraints. Culture is the antecedent of informal constraints, which reflects the fundamental institutions of society that contribute to different perceptions, attitudes, and behaviours in economic activities (Greif, 1994; Reuter, 2011). They come from socially transmitted information that is rooted in customs, religion, traditions and codes of conducts, which are reasonably unchanged from generation to generation (De Jong, 2009; Guiso et al., 2006; Inglehart, 1997; North, 1991). Earlier, Boyd and Richerson (1985) noted that these transmissions occur through teaching, imitation, knowledge and values. In the views of Breuer and Quinten (2009) and DiMaggio (1994), these mechanisms for transferring social information constitute a complex entity of cognitions (see also Schiller, 1997). In line with these conceptions, Hofstede (2001) defined culture as "the collective programming of the mind which distinguishes the members of one group or category of people from another" (see also Throsby, 2001; Lonner and Adamopoulos, 1997). Culture is, therefore, a system of implicit and explicit shared beliefs that are self-sustaining (Licht, Goldschmidt and Schwartz, 2007; Aoki, 2001; Inglehart, 1997).

Culture affects economic and financial development either directly or indirectly. Culture may aid in providing trust and social support for contract enforcement or resistance to abuse (Guiso et al., 2004; Licht et al., 2011; Weber, 1930). Dimensions of culture such as trust, respect, control and obedience (Tabellini, 2008) and Hofstede's uncertainty avoidance index have been shown to significantly affect financial development (Dutta and Mukherjee, 2012). Earlier, Stulz and Williamson (2003) showed that religious and language proxies for culture are better predictors of the quality of creditor rights protection and financial development. Protestant-dominated countries were found to protect creditors more and were more financially developed. This finding, however, has little application in Ghana. According to the Ghana Statistical Service [GSS] (2013), about 71% of Ghanaians were Christians in 2010, followed by Islam (17.6%), 5.3% non-aligned and Traditionalists (5.2%). As shown in Table 5.1, Protestants out-numbered Catholics both in 2000 and 2010 by 12.5 per cent and 13.1 per cent respectively.

The Protestant dominance is more significant (36.7 – 41.4%) if variations like Pentecostals and Charismatics are classified as Protestant. However, creditor rights have been weak historically. This finding is consistent with the results from the stakeholder survey in the previous chapter. Besides, stakeholders could neither find a direct or indirect link between religion and mortgage finance although culture is believed to be important in other ways.

Table 5. 1: Population by Religious Affiliation in Ghana: 2000 and 2010

Religion	2000 (%)	2010 (%)
Catholic	6.1	5.3
Protestant	18.6	18.4
Pentecostal/Charismatic	24.1	28.3
Other Christian	11.0	11.4
Islam	15.9	17.6
Traditionalist	8.5	5.2
Other	0.7	0.8
No religion	6.1	5.3

Sources: Compiled from 2000 and 2010 Population Census Reports (GSS, 2013).

5.1.3 Geography, Disease Environment and Institutional Development

Acemoglu et al. (2001) postulate that the disease environment and geography affect institutional development, including private property rights, and thus, financial growth. The Europeans adopted different colonisation strategies based on the feasibility of settlement, which was influenced by geography and disease. The Europeans, therefore, settled in colonies with low mortality rates and endowments[64]. For example, the American, Australia and New Zealand colonies were preferred to Guyana, Ivory Coast, Congo and much of the colonies in Latin America (Acemuglo et al. (2001). Therefore, while the Europeans built strong institutions in settler colonies, they did not live in extractive colonies, but devised strategies to extract resources by empowering the elites. Pursuing their self-interest (Engerman et al., 1998; young, 1994), these elites, presiding over less democratic governments after independence, perpetuated the status quo by strengthening the state over the development of private property rights (compared with settler colonies) with ramifications for financial development.

The geography and disease environment proposition may be essential in explaining weak creditor rights in Ghana before 2008. However, the theory lacks a mechanism to explain the selective protection of creditor rights by the various mortgage finance legislations throughout history, as shown subsequently. In the same way, the period after 2008 has unexpectedly experienced improvements in creditor rights protection as a result of legal reforms that led to the passage of the Home Mortgage Finance Act of 2008. This may be because European settlement in a geographical space per se may be irrelevant without reference to the quality of institutions they brought along as implied from the legal origins theory.

[64] For instance, in the tropics, Malaria and Yellow fever (the major sources of European mortality in the colonies) caused 80 per cent of European deaths. According to Curtin (1989: 30), 15 per cent was due to gastrointestinal diseases. While 87 per cent of Mungo Park's men died in their adventure to Gambia and Niger in the 1805, 72 per cent of the Europeans died in the first year of the Sierra Leone Company (Albouy, 2004). European mortality in the first year was 46 per cent in the "Province of Freedom" (Sierra Leone), and 61 per cent in Bulama (April 1792—April 1793) (ibid.).

Politics is a dynamic factor worthy of consideration as it is reflected in the role of elites in institutional development. Politics turns out as significant and as a viable replacement for the quality of creditor right protection variable in the cross-country study in chapter three.

5.1.4 Politics as an Alternative Explanation

The 'deep institutional' explanations explored above are, however, challenged by changes in the performance of countries over time. According to Rajan and Zingales (2003a), financial development in some civil law countries including Argentina, France, Germany, and Russia was better in the early 20th century (see Braun and Raddatz, 2004). The alternative explanation for differences in financial depth over time is differences in political processes. Financial repressive policies such as interest rate controls, directed credits, restrictions on capital flows and government ownership of banks are often politically motivated (La Porta et al., 2002; Quinn, 2000; Girma and Shortland, 2005).

Politics is therefore considered as the link between legal rules and economic outcomes, which are jointly determined (Pagano and Volpin, 2001). Some political choices that shape investor protection and its enforcement (Perotti, 2013) for instance are merely driven by political ideology (Roe, 1999). Notwithstanding, political economy models denounce ideology as the determinant of the degree of investor protection on the basis that political decisions are preferably based on economic interests. For example, to preserve the privileges of incumbency, some governments deliberately choose not to create institutions that foster sound financial regulation (Rajan and Zingales, 2003a), supervision, contract enforcement and disclosure standards (Girma and Shortland, 2008).

The political economy of finance, therefore, emphasises the distributional consequences of financial development (Rajan and Zingales, 2003a; 2003b). While credit allocation in underdeveloped financial systems is based among other things on political connections, well-developed and competitive financial markets reduce the rent incumbents can extract and thus enable outsiders to obtain finance, all things equal. The 'political economy equilibrium' level of financial development is therefore determined by the balance between the costs of increased competition and the benefits of better financial access. Thus, the relative power of promoters and opponents of financial development is vital. Rajan and Zingales (2003a) for instance show that capital mobility and open trade undermine both the ability and incentive of incumbents to suppress domestic financial development. Similarly, Braun and Raddatz (2004) explain that change in the relative strength of promoters and opponents of improved finance determine the level of financial development after trade reforms in the industrial sectors of countries.

Other studies show that the degree of political representation shapes the preferences of the various interest groups in economic policy (Pagano and Volpin, 2001). Olson (1965) argues that while some interest groups may not be represented in the political process at all, those that have some representation may be too weak to prevail against concentrated interests who have much to gain from specific policies. In this regard, McGuire and Olson (1996) opine that the degree of a regime's 'encompassing interest' and regime stability are important factors that influence resource distribution. They further show that Governments representing majorities have a greater 'encompassing interest' than governments based on minority interests and therefore provide more of public goods and use less taxation for redistribution. They also argue that the interest of autocrats changes drastically as his time-horizon shortens. Unstable regimes threaten the rents autocrats can extract. Thus, autocrats are motivated to confiscate any capital goods, which have a resale value greater than the income stream they generate over the remaining time horizon. However, democracies that are characterised by an independent judiciary limit the ability of political 'roving bandits' (Olson, 1993) to seize and retain assets as the end of their term approaches.

It can thus be argued that the level of financial development is a public good or not depending on the efficiency with which savings are mobilised, and funds are allocated to their most productive uses. Developed financial systems are public goods to the extent that they can mobilise more savings and allocate more funds to productive uses. They tend to have governments that provide effective regulation, supervision and contract enforcement. Underdeveloped financial systems, in contrast, are often monopolistic or oligopolistic production structures and are not public goods, because of the selective benefits, such as artificially low-interest rates, and default guarantees it provides to political elites.

5.2 Research Method

In conventional economic theory, the universal predictive power of a model is often said to be an essential quality indicator for models. For instance, comparative analysis of law and finance has traditionally relied on large n-studies driven by the positivist philosophy of the existence of only one obvious truth (see LLSV, 1997; 1998; LLS, 2008). The real world is however complex and nuanced. This quality indicator is thus inadequate because complex systems are non-erdogic and exhibit chaotic dynamics (Gräbner, 2017). This means that predictions of a model like the legal origins theory as discussed in the previous chapter may not hold all the time in all countries. This appears to be the case of Ghana, which inherited the common law but has had a history of weak private property rights.

The default option for understanding the situation is to focus on identifying the mechanisms (or "pathways") that have caused the status quo (Gräbner, 2017). In other words, mechanism-based or mechanismic explanations are needed (c.f. Bunge 2004). Mechanismic explanations do not constitute universal laws but have a certain generality (Hedström and Swedberg, 2005; 1998) that go beyond a purely descriptive analysis that provides a very detailed exposition of the particular events leading from one situation to another. One attraction of mechanismic explanations is its usefulness for policy design (Gräbner, 2017). The institutional autopsy approach is therefore used to provide a historical examination of the discrepancy between the character of the actual laws and the conventional mechanisms through which the common law is believed to affect financial development. Details of the method, data sources and analytical approaches are presented subsequently.

5.2.1 Institutional Autopsy Approach

The institutional autopsy approach was developed by Milhaupt and Pistor (2008). Contrary to the static relationship between law and finance as propagated by the legal origins theory (see LLSV, 1997; 1998; LLS, 2008), this approach is based on the philosophy that there is a dynamic directional process of rolling relations between economic events and legal change. Changes in the economy influence legal change and vice versa. It considers the iterative process of change in a system and examines the contribution of law to change. This approach is compared to the work of an academic pathologist, who conducts an autopsy not only to know the cause of death of a person but also to understand the general workings of the human body (Milhaupt and Pistor, 2008; Pistor, 2010). This approach is in contrast to the rational and static legal origins approach to the analysis of the interaction between law and finance, which is a one-way direction of causality – from law to finance and not the other way around.

In methodological terms, the institutional autopsy approach could be a single or comparative case study analysis (whether historical or cross-country) that facilitates the revelation of qualitatively varying information about specific contexts (Milhaupt and Pistor, 2008). Case studies can be exploratory, explanatory or descriptive (Yin, 1993) and are recognised in the literature as an ideal methodology when a holistic and in-depth investigation is needed (Feagin, Orum, and Sjoberg, 1991). For this study, the Institutional Autopsy approach is utilised within an explanatory case study framework.

The explanatory case study approach is used to investigate the character of mortgage laws in terms of organisation and function. The common law is expected to be protective (of private property) in function and decentralised in its organisation (Milhaupt and Pistor, 2008). In addition, the explanatory case study, which can be used for causal investigations (Tellis, 1997; Yin, 1994) was used to investigate the causal relationship between Ghana's legal origin (common law) and the channels through which it affects financial development. These channels as shown in Figure 5.1 are strong private property rights (Musacchio, 2008; Haselmann et al., 2006), and stronger contract enforcement (Djankov et al., 2010, 2007, 2006; Gamboa-Cavazos and Schneider, 2007; La Porta et al., 2006; Jappelli et al., 2005; Djankov et al. 2003b). The other channels are judicial independence and creativity (La Porta et al., 2004); and lighter state participation and minimal market regulation (La Porta et al., 2008; 2002; Djankov et al., 2002).

Since case study research is not sampling research (Stake, 1995; Feagin, Orum, and Sjoberg, 1991; Yin, 1994), there can be single-case (see Levy, 1988) or multiple-case applications (Tellis, 1997). This study is a single-case study with multiple variables, which are the channels identified above. According to (Yin, 1994), single cases may be used to confirm or falsify a theory, or to represent a unique or extreme case (Eckstein, 1975: 113 - 123). Although single case studies may suffer external validity challenges, this could be achieved from theoretical relationships (Yin, 1994).

5.2.2 Data Sources

Yin (1994) listed six sources of evidence for data collection in the case study protocol: documentation, archival records, interviews, direct observation, participant observation, and physical artefacts. There were four principal sources of data for this part of the study: legal documents, development policy documents, bank reports and the extant literature. Legal documents consisted of Acts of Parliament (mortgage-related laws) and legal cases obtained from the Judicial Service of Ghana on 20 July 2016.

Mortgage market performance data was sourced from surveys and reports presented by the two leading mortgage lender - GHL Bank and HFC Bank. The HFC Bank report that was presented at the World Bank/International Finance Corporation Housing Finance Conference in 2006 in Washington (USA) is of particular relevance.

5.2.3 Case Study Procedure and Analysis

The congruence procedure and the process tracing techniques were used to test the study's hypothesis (George and Mckeown, 1985; George and Bennett, 1979). The congruence procedure enables an examination of the hypothesised values of independent and dependent variables for a given case and determines in explicit or implicit comparison with other cases, whether these values are consistent with predictions from the hypothesis under consideration (George and Bennett, 1979: 29 -30; Van Evera, 1997). In this study, the hypothesised characteristics of the channels through which the English legal tradition affects financial development is compared with their actual characters as reflected in mortgage laws and their enforcement in Ghana. Besides comparing hypothesised values of variables with their observational values as in a type one congruence procedure, observational variables across different economic and political periods are also considered as in a type two congruence procedure (see Van Evera, 1997).

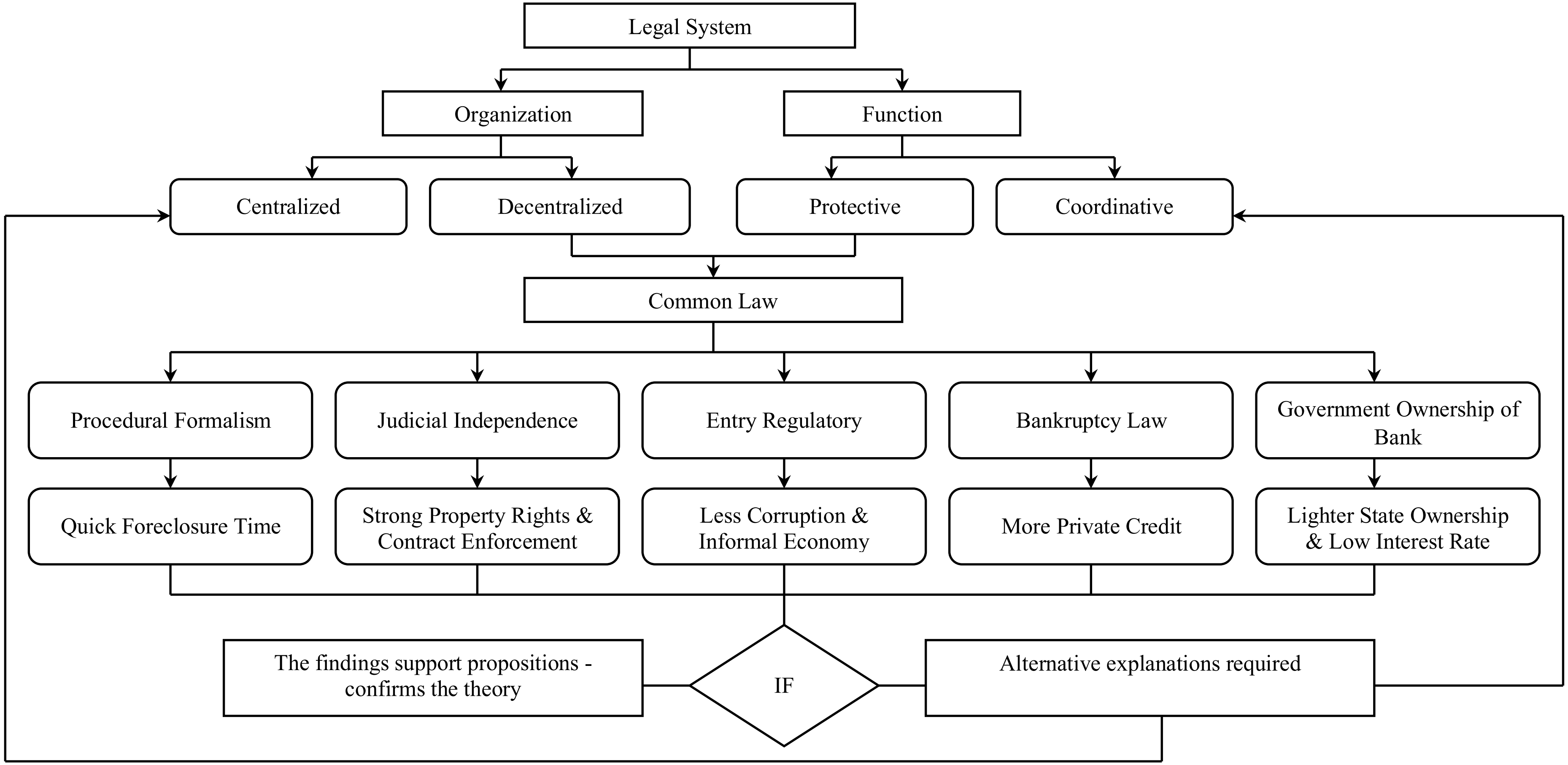

Figure 5. 1: Theoretical Framework

Source: Adopted from Milhaupt and Pistor (2008) and LLS (2008).

Note: Figure 5.1 shows the organizational and functional qualities of the Common law and the channels through which it is expected to affect financial development. The Common law considered as more decentralized and protective.

Process tracing, however, involves a close processual analysis of the unfolding of events over time within the case (George and Mckeown, 1985: 34 – 41), by which initial case conditions are changed into case outcomes (Van Evera, 1997). This enables an assessment of the consistency of the dynamics of change within the case relative to theoretical predictions. Process tracing may be a specific case of Campbell's pattern matching approach (ibid.). According to Almutairi (2014), the process of pattern matching follows three practical steps or phases: (i) statement of propositions; (ii) testing the observed patterns against the predicted patterns; and (iii) providing theoretical explanations and developing research outcome. The literature, theory, or hunches developed from field experience can be sources of predicted patterns (Trochim, 1989). The law and finance literature in general and the legal origins theory in particular form the source of predicted patterns in the study. Process tracing is used here to track the initial case conditions, in other words, the triggers and character of mortgage law enactment and enforcement. Process predictions are unique because no other theory predicts the same pattern of events and therefore offer strong tests of a theory (Van Evera, 1997). Figure 5.2 provides a diagrammatic representation of the analytical process used and how they lead to decision-making.

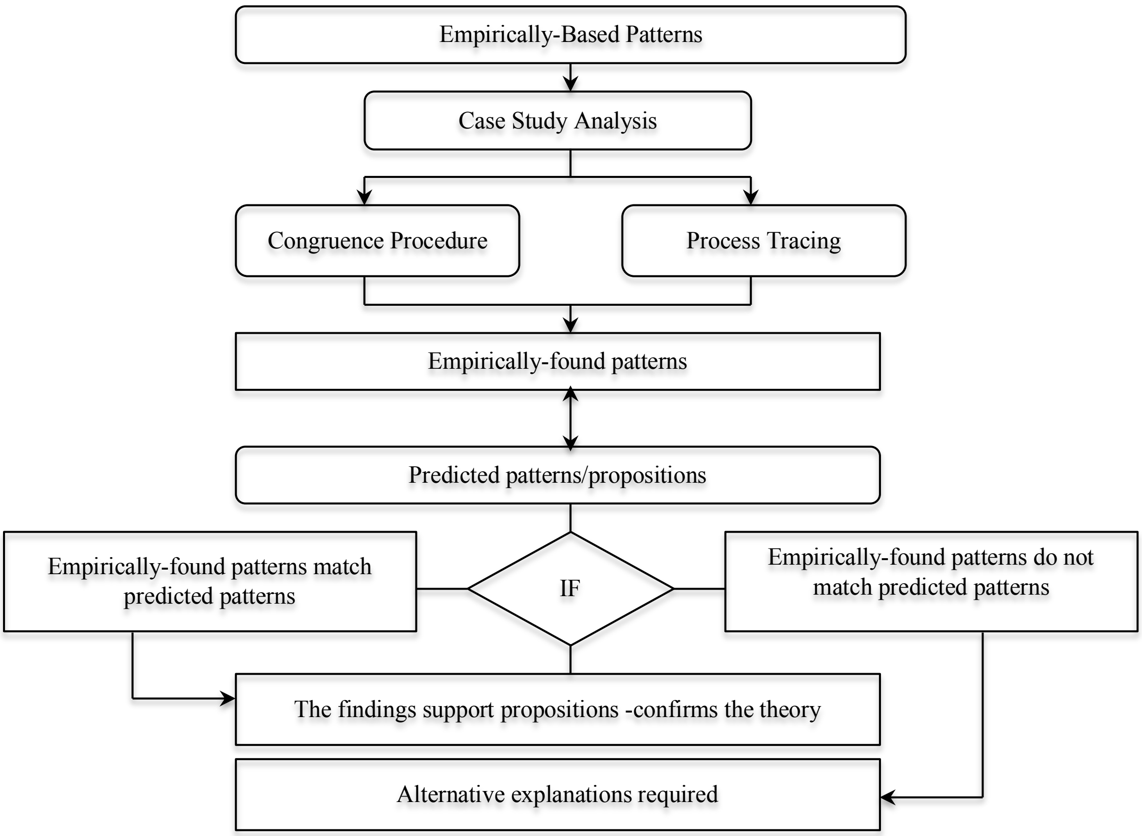

Figure 5. 2: Author's Construct

5.3 Case Study Results

The results are presented in three parts. Part one provides a description of Ghana's legal system and a review of mortgage-related laws, which are examined in part two. Findings from the institutional autopsies are discussed in part three.

5.3.1 The Legal System of Ghana

To understand the contribution of the legal institution to mortgage finance development in Ghana, it is essential to know the legal system, which includes the sources of law and the lawmaking process. Article 11 of the 1992 Constitution of Ghana defines five sources of law in Ghana. These are:

1. the Constitution;
2. Acts of Parliament - enactments made by or under the authority of the Parliament established by the Constitution [or legislation];
3. Subsidiary legislation - any orders, rules and regulations made by any person or authority under a power conferred by this Constitution [or subsidiary or subordinate legislation];
4. Existing law - the written and unwritten laws of Ghana that existed immediately before the coming into force of the 1992 Constitution; and
5. the common law of Ghana [the English common law, English doctrines of equity, and the rules of customary law].

The primary setting of the law including the lawmaking process, legal training, and judicial training is modelled on the English legal system. The colonisation of the Gold Coast (former name of Ghana) by the British from the last quarter of the nineteenth century (circa 1821) is the fundamental reason for the adoption of the English common law and the doctrine of equity as part of Ghana's common law to be specific and the legal system in general. July 24, 1874, is the critical date in the annals of Ghanaian constitutional and legal history when English law was first (officially) introduced into the Gold Coast (Amankwah, 1970). The law at the early years of independence (from 1957 and beyond) mirrored more clearly the form and nature of the English legal system but have evolved to reflect a Ghanaian outlook.

While English cases and legal concepts are still of both tangible and intangible persuasive value at all levels in the Ghanaian courts, departures have not been uncommon[65]. The scope of judicial freedom in consideration of rights, including property rights and related claims, can only be expanded or limited according to the letter and spirit of the Constitution. Therefore, although the common law is characterised by decent amounts of judicial discretion and creativity, its scope is about existing

[65] One significant way in which Ghana differs from England is that it has a written constitution based on which the country is governed. In some respects, therefore, its judicial pronouncements and attitudes for the protection of rights rely significantly on written constitutional and statutory prescriptions.

gaps in the statutes and its extents. The next section presents a comprehensive historical review of the institutional and regulatory framework for mortgage financing.

5.3.2 Institutional and Regulatory Framework for Mortgage Finance: A Review of Historical Developments (1940 – 2017)

The survey instrument identified nine mortgage and related laws over a period of 77 years (1940 and 2017). The legal documents were classified according to two historical and political eras – pre and post-independence – as provided in Table 5.2. Two laws were passed before independence (1940 - 1957) and seven laws after independence in 1957. A review of these laws is presented below.

5.3.2.1 Moneylenders Ordinance, Cap 176 (1951 Revised)

Although enacted in 1940, the Moneylenders Ordinance became operational from February 1941. It is contained in the 1951 review of the laws of the Gold Coast[66] as Chapter 176. It mainly regulated the moneylending business, but excluded co-operative societies, banks and insurance companies. The exclusion provision also included some native customary interest rate practices within pawnbroking and some dealings akin to the modern form of mortgages. It prescribed procedures for the granting of operating certificates, suspension and forfeiture of a moneylender's certificate. It was not an attempt to define or codify the then existing law relating to mortgages - common law conception of a mortgage.

A cardinal feature of the Moneylenders Ordinance relevant to the development of mortgage financing in the then Gold Coast was its attempt to regulate interest rates chargeable on loans secured by charges on real or personal property. Section 13 of the Ordinance capped interest rates on identified sums, beyond which transactions were re-characterised as excessive. The legal effect is that instances of re-characterisation clothed the courts with additional powers to evoke the Loans Recovery Ordinance (1951) (Cap. 175)[67], to re-open the money-lending transactions in suits by creditors[68]. Despite the relative economic stability during this period, the market efficiency of restrictive interest rates was questionable. This is because interest rates were unlikely to reflect the risk regime, particularly in the event of defaults, which may have limited the supply of mortgage credit. There was also a possibility of a dampening effect on prospective creditors.

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[66] The Gold Coast was the name given to the Southern part of the four territories and 'protectorates' that later became a part of the modern country Ghana.
[67] Originally published as McCarthy Cap. 146. Ordinances Nos. 2 of 1918, 30 of 1935.
[68] See Section 3 of the Loans Recovery Ordinance (1951) (Cap 175).

Table 5. 2: Mortgage and Related Legal Documents: Pre and Post-Independence

Year	Governance Type	Government Administration	Mortgage and Related Laws
1951	Colonial	British Rule (Labour Party)	Moneylenders Ordinance, Cap. 176 (1951 Rev.)
1955	Colonial	British Rule (Conservative Party)	Building Societies Ordinance, (Ordinance No. 30)
1972	Military	National Redemption Council	Mortgages Act, (National Redemption Council Decree [N.R.C.D.] 96)
1972	Military	National Redemption Council	Bank for Housing and Construction Decree, (National Redemption Council Decree [N.R.C.D.] 135)
1976	Military	Supreme Military Council	National Mortgage Financing and Guarantee Scheme Act, (Supreme Military Council Decree [S.M.C.D.] 23)
1993	Military	Provisional National Defence Council	Home Mortgage Finance Act, (Provisional National Defence Council Decree [P.N.D.C.L.] 329)
2007	Democratic	National Patriotic Party	Credit Reporting Act, (Act 726)
2008	Democratic	National Patriotic Party	Home Mortgage Finance Act, (Act 770)
2008	Democratic	National Patriotic Party	Borrowers and Lenders Act, (Act 773)

Source: Judicial Service of Ghana (2016)

Note: This table presents all the relevant laws in relation to mortgage finance from 1951 to 2017. Each law is matched with the type of government under which the laws were passed, name of the ruling government and the specific year.

5.3.2.2 Building Societies Ordinance, 1955 (No. 30)

Like the Moneylenders Ordinance, the Building Societies Ordinance (No. 30) passed in 1955 to regulate the formation, registration, and management of building societies did not codify the existing laws relating to mortgages. Preferably, the law provided a framework within which persons could come together, under a legally recognised entity, to raise by the subscriptions of that entity's members a stock or fund from which to make advances to those members[69]. Operating like small co-operative non-banking financial institutions, Building Societies could make advances to their members out of its funds based on the security of land. Thus, although, building societies were not bespoke mortgage finance vehicles, they played a role in land-based financing including mortgage financing.

Building societies could raise additional funding by leveraging their equity (subscriptions) as well as hold land whether by purchase or foreclosure upon default of a borrower. The ease of foreclosure was condition precedent on having served notices in the Gazette and local newspapers of the creation of the charge, not less than three months into the making of the first advance. Attempts at foreclosure also required notice periods of three months for defaults in the repayment of mortgage principals and two months for mortgage interest. Nonetheless, foreclosure under the ordinance was non-judiciary (did not require recourse to the courts), which compensated for the delay in foreclosure because of notice requirements. Subsequent laws however deviated from this principle by mandating judicial supervision over foreclosures in the form of judicial sales.

Building societies, provided a more comprehensive framework for raising funds for housing purposes although not without setbacks to private interest protection. For instance, decisions reached by arbitrators, court or the Registrar under the Ordinance were final without an opportunity of appeal. Further, amendments to the Ordinance in 1959 significantly altered voting rights in favour of the government when it held common shares in a building society. The government was given the right of one vote for every ten pounds invested contrary to the rule – the amending Act did not allow the conferment of more than one vote on any other holder of shares in such a building society. This meant that the government's voting rights were more than that of private investors for the same amount of investments made. Such an arrangement naturally opened these public-private building societies to significant political manipulation and the political cronyism that characterised the early 1960s.

The uncertainty surrounding the protection of private property rights possibly constrained the emergence of many building societies. If they did, they probably did not survive. The only notable one is the First Ghana Building Society, which was itself not incorporated under the Ordinance of 1955 but instead under another post-independence legislation - First Ghana Building Society Decree,

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[69] See definition of Building Societies under the Ordinance.

1972 (N.R.C.D 60). It could thus be argued that although the concept of building societies was promising regarding creating avenues for the provision of co-operative housing finance, the regulatory framework did not do much to create certainty of returns and protect private property rights in ways that could have made them more attractive.

5.3.2.3 Mortgages Decree, 1972 (N.R.C.D. 96)

The passage of the Mortgages Decree, 1972 (N.R.C.D. 96) was the first attempt to codify the existing laws relating to mortgages. Unlike the previous interventions like the First Ghana Building Society Decree, 1972 (N.R.C.D 60), which created special circuits for the funding of mortgages, the Mortgages Decree established a general framework for regulating the mortgage lending business. This attempt marked a significant departure from the then prevailing English common law conception of the legal nature of a mortgage – title theory[70]. A mortgage became, for the purpose of this Act:

> *"a contract charging immovable property as security for the due repayment of a debt and the interest accruing on the debt or for the performance of any other obligation for which it is given, in accordance with the terms of the contract" (Section 1(1)).*

This new concept of the nature of a mortgage was in line with the lien theory of a mortgage. This concept required the mortgage to serve as an encumbrance only on the property charged and did not operate to change the ownership, right to possession or any other interest in the property, whether present or future[71]. Mortgagors (borrowers) as a result procure greater flexibility in dealing with the subject property even after the charge is created. Mortgagee's (lender) remedies about the enforcement of personal covenants and the realisation of the collateral security upon an event of default were limited to three legal actions. First, there was a provision for the appointment of a receiver to manage property income upon the borrower's default[72]. There was also a narrow allowance for the mortgagee to take possession[73] on default and thirdly, an order for judicial sale[74].

While the appointment of a receiver was only useful in the case of income-generating properties, the mortgagee could just repossess the mortgaged property peaceably or upon an order for judicial sale. The mortgagee would face strict liability for breaches of trust or loss of value for reckless delays or inaction about the management of the property if the property were taken peaceably. Effectively,

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70 At that time under English common law, a mortgage operated to change ownership from the mortgagor to the mortgage until the property was redeemed. The redemption and removal of the "charge" then paved way for the full transfer of the subject property back into the hands of the mortgagor.

71 Section 1(2), Mortgages Act, 1972

72 Section 16, Mortgages Act, 1972

73 Section 17, Mortgages Act, 1972

74 See the Judicial Sale process under Section 18, Mortgages Act, 1972

mortgagees under this law are limited to a judicial sale, which departs from the provisions of the Building Society Ordinance. It therefore significantly limits the rights of mortgagees about non-judicial foreclosure. Indeed, '[n]otwithstanding any provision to the contrary in the mortgage, a judicial sale [is] the only manner in which a mortgagee may foreclose rights to redeem the mortgaged property' (Section 18(9)).

Despite almost being the only remedy to realise the collateral, an order for a judicial sale is not automatic. Apart from establishing a need before a court, evidence of having given ample opportunity to the mortgagor to remedy the defect was required. Besides satisfying these requirements, a court order for a judicial sale of the collateral shall only take effect thirty days after the order date. These processes, which could take about two and half years on average to execute (Butler et al., 2009) is apparently excessively time-consuming, costly and highly inefficient. Given the uncertainty of property values, such delays in a depressed economy characterised by declining property values would undoubtedly be detrimental to creditors and investors with possible ramifications for bankruptcy and financial stability if losses are significant enough. This remedy apparently did not encourage mortgage lending as no significant new market entrant was recorded before 1990.

Therefore, while the Mortgages Decree arguably overly protected mortgagors, it compounded legal and financial risks for mortgagees. Legal risk could manifest in the form of a re-characterisation of privately negotiated loan agreements secured by immovable property as a mortgage even if initially not intended by the parties. Financially, mortgagees were significantly exposed to credit risk. The effect of a weak creditor protection landscape characterised by weak property rights coupled with virtually no formal credit information systems to facilitate efficient credit allocation was that mortgage credit rationing prevailed, especially after 1972.

5.3.24 Bank for Housing and Construction Decree, 1972 (N.R.C.D. 135)

The neoliberal wave in 1970 appears to have influenced the role of the Government in the mortgage market. Instead of direct intervention as was the case with the First Ghana Building Society, the Government became an enabler and facilitator of market development under the 1970-1971 housing policy. In this new role, the Government sought to create the enabling environment for the development of the mortgage finance market. To give credibility to the 1970-1971 housing policy, the Bank for Housing and Construction Decree, 1972 (N.R.C.D. 135), under which the Bank for Housing and Construction (BHC) was established, was passed. The BHC, unlike the commercial banks, operated under the Bank for Housing and Construction (Commencement of Business) Instrument, 1973 (L.I. 853) as a development finance institution (DFI). Its core mandate was to mobilise and supply long-term housing finance to homebuyers, concessionary construction finance to housing developers and industrial finance to companies producing building materials. Deposits, government loans and foreign loans were the core sources of funding for the BHC.

As expected, the overthrow of the Government in 1979 was accompanied by a change in the focus of the BHC from development financing to commercial banking[75]. It operated three major schemes. First, Individual Housing Scheme and the Ghanaian Residents Abroad Scheme offered loans for new construction, purchase of existing houses, completion, extension and improvement of existing houses. Second, the Rural Housing scheme in 1987 facilitated the purchase of building materials, including roofing sheets, cement, nails and technical assistance for upgrading the existing rural housing stock. Notably, access to these schemes was limited to only customers of the BHC. Third, the Staff Housing Scheme provided loans to eligible bank staff at below-market interest rates. Eligibility was based on the length of service, grade, age and ability to repay. Records indicate that only ¢224 million (US$995,000) in housing loans to 363 customers was made between 1974 and 1988 (Konadu-Agyeman, 2001). The BHC was later liquidated due to fraud (Boamah, 2010; Akuffo, 2005).

5.3.25 National Mortgage Financing and Guarantee Scheme Decree, 1976 (SMCD 23)

The Government in 1976 set up a mortgage guarantee scheme, operated by the central bank (Bank of Ghana) under the powers of the National Mortgage Financing and Guarantee Scheme Decree. It had the purpose of indemnifying approved participating financial institutions in respect of losses incurred out of defaults in payment of loans granted under the Scheme. Besides facilitating access to housing loans for new housing construction, extension, renovations, and development finance to real estate developers, the central bank was also mandated to provide liquidity (as a secondary lender[76]) to participating banks when needed. The activeness of the secondary mortgage lending function is however doubtful. The Decree remained mostly dormant on Ghana's statute books until it was repealed in 2008.

This scheme, therefore, represents another unsuccessful attempt to stimulate the development of the mortgage market. It had many drawbacks. First, it had an opaque selection criterion for participating institutions, which may have served as an avenue for political manipulations. There is no evidence of any subsequent additions of participating institutions apart from the nine banks and two construction firms[77] initially involved. Second, by standardising interest rates for all loans generated under the Scheme, it failed to account for differences in cost of capital to the participating institutions. Moreover, in an economic period characterised by glaring macroeconomic and structural problems,

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[75] UN-Habitat (2011).

[76] Section 26, National Mortgage, Financing and Guarantee Scheme Decree, 1976 (S.M.C.D 23).

[77] These nine banks were Ghana Commercial Bank, Barclays Bank of Ghana Limited, Standard Bank Ghana Limited, Bank for Housing and Construction, National Savings and Credit Bank, National Investment Bank, Agricultural Development Bank, Merchant Bank (Ghana) Limited and First Ghana Building Society. The two construction organisations were the State Housing Corporation and the Tema Development Corporation.

rising inflation and sizeable external debt under a series of military governments, it was no surprise that the passing of this legislation failed in its bid to increase access to mortgage finance. The overall economic and political atmosphere could not support a one-size-fits-all state-sponsored mortgage interest rate regime.

Also, loan pricing overlooked differences in borrower characteristics and the viability for resale of the security of the loan. Despite having the potential to influence default propensities, these factors were remedied by the scheme. They thus could not have been significant determinants of the failure of the scheme. Third, the loan qualification criteria for individuals and organisations under the Act were very restrictive. Eligible customers were defined as those who have been employed for at least three years in qualifying employment and have saved for a minimum three years with the particular financial institution unless the bank agreed to a shorter term. While employment and savings are essential indicators of creditworthiness, the motivation for a minimum of three years' employment and savings status was questionable. The need for a state guarantee was possibly redundant if only very creditworthy individuals often the wealthy elite living in urban areas, who probably did not need such assurances, were the only ones who could access it. It can be contended that the qualifications were perhaps even more restrictive than what the financial institutions would have used. The Act therefore operated instead to limit the scope of individuals and households eligible for mortgage finance under the guarantee scheme.

5.*3.26 Home Mortgage Finance Act, 1993 (P.N.D.C.L. 329)*

There was another attempt at developing the mortgage finance in 1993. This time, under the Home Mortgage Finance Act, 1993 (P.N.D.C.L. 329), the goal was to set up a two-tier mortgage finance system modelled after the American mortgage system. The first tier, which was to be made up of primary mortgage lenders, who had the mandate of undertaking loan origination, underwriting and servicing functions. The second tier was to be a secondary mortgage market to provide liquidity and default guarantee to the participating primary lenders. The Home Finance Company, the intended secondary lender that was established and funded by the state, some parastatals (shown in Figure 3) and the World Bank to implement this new project.

The establishment of the Home Finance Company represents a move by the state to back out of direct housing financing. The Home Finance Company was however still subject to state control since the country and its parastatals held majority shares. Besides, the Central Bank was given explicit power under the Act to request the particulars of any loans granted and to prohibit the granting of further or to indicate new post-contractual terms, conditions or direction that had to be complied with by the Home Finance Company. Contrary to the absolute guarantee provided under the National Mortgage Financing and Guarantee Scheme Act, 1976 (SMCD 23), the 1993 Act sought to share default risk using a 10: 90% rule between the participating institutions and the Home Finance Company respectively. This idea was comparatively worse. Moreover, the mortgagees' remedies in the event of default under the Act were not much different from those provided by both the Mortgages Act, 1972 (N.R.C.D. 96) and the National Mortgage Financing and Guarantee Scheme Act, 1976 (S.M.C.D. 23). These were (i) appointment of a receiver, and (ii) a judicial sale following repossession through court action. In spite of these limitations, the mortgagee could foreclose without resort to the courts in some instances contrary to the provision in the Mortgages Act. Foreclosure in the case where at least 85% of the total loan amount has been paid was only possible by court action.

The weaknesses of the Scheme created under P.N.D.C.L. 329 were similar to those of S.M.C.D. 23. For example, it lacked a clear criterion for selecting the participating financial institutions that were automatically granted government guarantees[78]. A similar degree of vagueness characterised the qualification criteria for individual customers. Since the law provided no criteria for selecting these institutions, a gap was created which opened up an avenue for political patronage and possible interference by government. The statute was also limited regarding prescribing a governance structure and modalities for the administration of the scheme except for the Central Bank's broad powers over the company. Managerial discretion was enormous and also raised significant corporate governance questions - for whom and in whose interest is this managerial discretion primarily exercised?

The proposed two-tier structure of the scheme was unsuccessful. This forced the Home Finance Company to operate as a two-in-one institution, performing the dual function of primary and secondary lender. Its performance regarding mortgage originations and mortgage portfolio value as shown in Figure 5.4 generally showed a downward trend over the years (1992 – 2005), leading to its loss of market leadership to the Ghana Home Loans in recent times. After about a decade of operation, it was converted into a universal bank in 2003, which diluted its original mandate.

5.3.2.7 Home Mortgage Finance Act, 2008 (Act 770)

The passage of this Act represents a major shift in political ideology and the quality of creditor rights protection. Contrary to the Mortgages Decree, this Act reflects a more purposeful shift towards a regulatory framework that protects creditor rights more and thus promotes mortgage lending more. The scope of the Act covers transactions relating to the provision of finance for (i) the construction or purchase of a residential property; (ii) the completion of a residential property; (iii) extension to or renovation of a residential property; (iv) improvement to a residential property for ownership, sale

[78] Six institutions were selected here. Five were banks: Barclays Bank of Ghana Limited; Ghana Commercial Bank; Standard Chartered Bank (Ghana) Limited; Social Security Bank Limited; State Insurance Corporation and National Savings; and Credit Bank Limited. The criteria for their selection remain unclear but these were among the biggest and most widely known banks. Some of these banks also had some form of direct or indirect state ownership at the time; for example, Ghana Commercial Bank and the Social Security Bank. The only insurance company was then owned by the state.

or rental; (v) construction of residential properties for sale or rental; or (vi) purchase of fixtures and chattels related to residential properties. Although the Mortgages Act is still in force, this legislation Act 770 has priority when their provisions conflict. Thus, while the fundamental nature of a mortgage under Ghanaian law remains (as a charge), the Act provides better foreclosure rights (i.e. non-judicial) to mortgage lenders compared to previous legislation, which does not require a resort to the courts. Non-judicial foreclosure is decidedly a speedier approach to the protection of lenders foreclosure rights. Besides, the Act avoids the discriminatory state guarantee schemes for mortgages, which was provided to the pre-selected financial institutions under the 1993 Home Mortgage Finance Law.

Moreover, its express recognition of the creation of floating charges in contrast to fixed charges on a range of assets, both present and future, to mortgages creates financial flexibility. This flexibility reduces the potential credit risk relating to less viable collateral assets and promotes liquidity by encouraging the onward sale or dealing with charged assets under the mortgage agreement. Floating charges are equitable charges over the whole or a specified part of an obligor's undertaking and assets both present and future. Therefore, contrary to the pre-identified assets that serve as the subject matter of a mortgage, floating charges expand the list of assets that can serve as collateral. The provisions in the Act that restricts the use of a mortgage loan only for the *"purpose for which the loan was obtained"* provide an additional layer of protection for creditors. It also limits the transfer of interests or the creation of further charges to prevent overly risky dealing with collateral assets, only to be made with the prior approval of the mortgagee. Besides suing on personal covenants, the mode of enforcement concerning the exercise of the right of possession via a '*motion on notice'* under High Court (Civil Procedure) Rules, 2004 (C.I. 47). This procedure is a superior and faster remedy than the issuance of a writ to evoke the right to judicial sale, prescribed by the Mortgages Decree. Actions commenced by a writ require the issuance of a writ; service of the write on the defendant; days allowed for a defence that may receive a reply; and subsequent responses. All of these processes, which may take several days and may be interrupted by adjournments, must happen before the main trial may take place.

A motion on notice, however, only requires a simple application to the court, which is then served on the respondent. The motion on notice would be most effective if peaceable possession of the collateral is possible; but where otherwise, the mortgagee is empowered to use the services of the Police or other persons in possession under a warrant issued by a court to evict the mortgagor. Where the respondent files an affidavit, the court would rule based only on the supporting affidavits or where necessary, call upon the parties to argue. The sale of the mortgaged property on default either by public auction or private treaty where agreed by the parties may be done without recourse to the court. Compared with previous legislation, the remedies under the Home Mortgage Finance Act (2008) provide superior protection of creditor rights. In a relatively illiquid property market, these provisions may mitigate credit risks about credit recoveries upon default. This notwithstanding, there are valid and legitimate concerns for predatory lending and subsequent aggressive foreclosures similar to occurrence in the US housing market, post-2007-2008 financial crisis. These concerns may, however, be premature since there has not been an explosion in the rate of mortgage foreclosures since the passage of this Act.

5.4 Organisation and Function of the Mortgage Legal and Regulatory Framework: Summary of Salient Points

The review of the historical development of mortgage laws in Ghana reveals three main features. In general, the regulatory framework for mortgage finance over a period of 68 years (1940 - 2008) exhibited a concentrated and coordinative character, where the laws appeared to have empowered the state to set up special circuits and bureaucracies to administer various forms of market controls — interest rate, entry barriers and default guarantees. During this period, the posture of the mortgage finance legal environment seemed to have been over-protective of perceived vulnerable borrowers, and thus undermined the interest of private sector creditors. However, legal reforms that resulted in the enactment of the Home Mortgage Finance Act (Act 770) in 2008 changed the character of the regulatory environment into a more decentralised system that is more protective of creditor rights.

Earlier in 1993, the Home Mortgage Finance Act (P.N.D.C.L. 329) passed by the military government attempted to provide similar remedies but in a discriminatory fashion, only to pre-selected creditors who were allowed to participate in the mortgage market as originating and servicing institutions (OSIs). The attempt to develop a mortgage market was part of the financial sector structural adjustment programme (FINSSAP) undertaken under the influence of the World Bank and the International Monetary Fund as part of conditionalities for aid. Currently, there are no interest rate controls, default guarantees for market participants, excessive entry barriers and direct provision of mortgage finance by the state.

The nuances regarding organisation is that the legal system has been more centralised or more decentralised at different stages of its development depending on two factors - legal formalism and the general orientation of the substantive law. Concerning the legal form, the common law is generally considered as a legal system that is highly decentralised regarding the number of people involved in the law-making and enforcement processes (Milhaupt and Pistor, 2008). This feature thus generally encourages litigation as against cooperation by providing individuals who have been adversely affected by state or private action access to the law enforcement mechanism (ibid). Like the source legal system (UK), the case in Ghana is not much different.

However, the decentralised process of litigation is less accessible to constituents because of entry barriers deliberately imposed by law or circumstances like affordability. This then encourages cooperative bargaining among stakeholders. Among the many consequences, it may have hurt the protection of creditor rights for many years (1972 – 2008). For example, the Mortgages Act favours reorganisation of loans, which highlights a push towards cooperation between lenders and borrowers compared to foreclosure. To make this effective, lenders face strict liability for value losses after taking possession of the collateral. Besides, the Mortgages Act also outlawed non-judicial foreclosure between 1972 and 2008. A judicial sale of the collateral, requiring court action, became the effective means by which lenders could liquidate the collateral to recoup their investments in the event of a default. By default, this provision encouraged litigation. However, that is only a superficial characteristic of the common law by design, effective when litigants can efficiently access the enforcement mechanisms. Thus, the efficiency of the law enforcement mechanisms greatly influences the choice to litigate or cooperate.

Ghanaian courts are known to be inefficient, clogged with many unresolved cases for decades, especially those relating to land disputes. Without a unique mechanism to enforce mortgage laws, stakeholders whose rights have been adversely affected by their counterparties are constrained in the pursuance of litigation. Not only because of the lengthy processes, but also because of the abortive costs that may be incurred due to adjournments and stay of executions initiated by affected mortgage debtors. Lenders and borrowers may be forced to cooperate than litigate to avoid the frustration of the court system. This action would often lead to a reorganisation or restructuring of the loan in more favourable terms to the borrower to encourage repayment. Since the legal system irrespective of its effectiveness may be performing market-supporting functions, actors can be expected to opt out of the legal system whenever non-legal alternatives are available at lower economic or social cost to them (Milhaupt and Pistor, 2008). The restoration of non-judicial foreclosure by the Home Mortgage Finance Act, 2008 (Act 770) in recent times has brought the organisational and functional character of mortgage law in line with the expectation of the rational legal origins theory – emphasis on strong creditor rights. Here, it is crucial to disentangle correlation from causation. The processes and factors leading to legal change go beyond Ghana's destiny lived through its common law traditions, as will be argued in the next section.

The review of the regulatory and institutional framework for mortgage finance has laid the foundation for a presentation of the Institutional Autopsy results in the next section. These results were obtained from the critical assessment of the channels through which the common law heritage affects financial development in general and mortgage finance development in Ghana.

5.5 Institutional Autopsies

Findings of the institutional autopsies of four mechanisms of the common law are discussed in turns below. These include; state regulation of markets, judicial independence and creativity, private property rights and enforcement, and state ownership of banks.

5.5.1 State Regulation of Markets

Two aspects of state regulation of markets are worth considering. First, the National Mortgage Financing and Guarantee Scheme Decree, 1976 (S.M.C.D. 23) regulated market entry by prescribing restrictive qualification criteria for both lenders and borrowers under the guarantee scheme. The politically appointed administrators of the scheme were mandated to select the participating lenders with discretion and not by a transparent criterion (as none existed upon our checks). This condition was not different under the Home Mortgage Finance Act, 1993 (P.N.D.C.L. 329). At a time when the government was at *'war'* with private businesses and entrepreneurs (1979 - 2000), partly due to political ideological differences, the discretionary powers granted the administrators constituted a significant barrier to entry for some investors and lenders by creating an unequal playing field for all. The wide discretion given to these administrators represented a lack of clarity, which created avenues for political patronage and self-dealing.

Discretionary guidelines in the selection of beneficiary borrowers may well have allowed those close to power - friends, families and cronies - some more leverage in accessing mortgage finance under the schemes. The cronyism of the government between 1979 and 2000 - Provisional National Defense Council (PNDC)/ National Democratic Congress (NDC) is well-noted and in this instance revealed in the Augustus Tanoe case, which is presented later. Tanoe and other party loyalists built up their businesses by exploiting government loans, grants, lucrative contracts, implicit exemption from payment of taxes, and the acquisition of public enterprises. Opoku (2010) reveal that Tanoe's company's (Transport and Commodity General) start-up capital of US$144,000 ballooned to US$2 million within three years. He was also captured in a publication by the Ghanaian Chronicle (11–13 August 2000: 12) admitting that: *"[i]t is an open secret that so many grants from Japan, Canada, USA, and Britain had been given to party functionaries who have misapplied it".* In effect, contrary to the decline in opposition businesses, the government-supported businesses experienced a meteoric rise (Opoku, 2010).

Besides, the government's Guarantee Scheme was another avenue to control entry into the mortgage market. Only some financial institutions referred to as the originating and servicing institutions (OSIs) selected by the politically appointed administrators of the scheme were to receive a risk guarantee from the government under the Home Mortgage Finance Act, 1993 (P.N.D.C.L. 329). For example, participating banks were to be indemnified up to 90% of their losses due to default (Ansah, 1996). In a hyperinflationary economy as was at the time, reaching about 59.5% in 1995 (Canagarajah and Portner, 2003), limiting mortgage guarantees to a few OSIs could have adversely affected the number of mortgage originations by non-participating banks and thus restrict overall mortgage finance development. Despite this guarantee, the mortgage guarantee scheme, however, did not entirely take off as intended because the selected financial institutions failed to participate.

The weak economic strength of persons seeking mortgages at the then prevailing interest and exchange rates than unfair discrimination by law contributed to the failure of the government's Guarantee Scheme. Nevertheless, given the cronyism of these governments, it could have constituted a scheme by which the debts of party members who defaulted on their mortgages would have been paid for by the state. Thus, effectively serving as a reward to party members for services rendered to the ruling party. Selection to participate in the guarantee scheme was but one of the avenues for undue government discrimination. For example, while the Mortgages Decree, 1972 (N.R.C.D. 96) forbade non-judicial mortgage foreclosure altogether, the Home Mortgage Finance Act, 1993 (P.N.D.C.L. 329) granted this right to the selected participants in the new mortgage finance arrangement. Therefore, systematic foreclosure risk was eliminated by public policy and affirmed by law for only a few favoured financial institutions. This condition made mortgage lending unattractive to the other financial institutions that did not enjoy the risk guarantee provided by the state.

Second, there were also instances of excessive control of prices, consistent with observations made earlier by Akuffo (2009). Like the National Mortgage Financing and Guarantee Scheme Decree, 1976 (S.M.C.D. 23), Section 13 of the Moneylenders Ordinance, for example, capped bank interest rates. This policy became a source of interest rate risk to lenders. Although interest rates remained relatively low during the pre-financial liberation era (1957 - 1987), they became more volatile during the post-financial liberation era (starting from 1987). For example, the 1970s global oil crisis was a significant source of macroeconomic instability, leading to high inflation rates that required comparable high-interest rates. However, by capping interest rates, lenders could no longer price efficiently. Since most potential borrowers could only access credit at high-interest rates to reflect their risk, the cap on interest rates meant that lenders had to take on more uncompensated risk or credit ration. Given that the pool of creditworthy borrowers was potentially small, credit rationing on a large scale could have made the lending business unprofitable due to the lack of economies of scale. In this way, the Ghanaian legal rules did not validate the theoretical construct about the common law being more efficient at aiding private contracting. This view is more so when private contracting could be re-characterised as illegal or excessive if they violated the statutory interest rate thresholds. It will appear that the legal rules were created out of political expediency rather than an adherence to any characteristics of a legal tradition.

5.5.2 Judicial Independence and Creativity

Ghana has had five constitutions due to military interruptions of democratic governments at various times in its history. The first constitution was adopted in 1957 when Ghana gained independence. This constitution was subsequently amended in 1960 towards gaining republican status, which was operational until the 1966 coup d'état. The military government of General Ankrah governed the country between 1966 and 1969. The third constitution then came into force between 1969 and 1971 with the ascension of Dr K.A. Busia as Prime Minister. Similar to the third, the fourth constitution was short-lived (between 1979 and 1981) with the overthrow of Dr Hilla Limann's government. The fourth republican constitution promulgated in 1992 is the fifth and current constitution of Ghana.

The 1992 Constitution contains detailed provisions aimed at promoting the independence of the judiciary, in recognition of the idea that the level of judicial independence is one of the litmus test of an evolving democratic transition (Feyemi et al 2003: 9). Article 127 (2) stipulates that:

> *"neither the President nor Parliament nor any person whatsoever shall interfere with judges… or other persons exercising judicial power…."*[79] .

Notwithstanding this constitutional provision, both military governments and democratically elected governments have in various times in history undermined judicial independence in various ways. The only difference is that democratically elected governments take advantage of weaknesses in the design of the constitutional framework and institutions to legally undercut the judiciary. Therefore, the efficiency of jurisprudence through judicial discretion becomes suspect in the midst of extraneous political factors. In some instances, and contrary to the expected efficiency of the common law system, judicial discretion in a politically restrictive condition may instead be used to empower the state and thus weaken private property rights.

The review of the laws suggests that judicial independence has been limited by the excessive Executive power given to the President by the same constitution (see Oquaye, Gyimah-Boadi and Prempeh[80]). According to Prempeh (2010):

> *"Ghana's chief executive has historically been the monarch of all that he surveys… Only the "power to pronounce judgment" is left completely in the hands of the judiciary, but even here the President wields a good amount of influence and leverage through the powers of patronage and the purse".*

The independence of the judiciary is undermined by the constitutional powers of the president to appoint the Chief Justice and other judges of the Superior courts of judicature either in consultation with the Council of State or the Judicial Council with the approval of Parliament. The checks and balances provided by the Council of State and Parliament are however undermined from at least two

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[79] See also Articles 179, 125(1), and Clause 1 of Article 127 of the 1992 Constitution.
[80] In the words of Kwesi Prempeh: "Ghana's chief executive has historically been the monarch of all that he surveys. And this has generally not been good for the development of constitutionalism in Ghana. Regretably, the 1992 constitution does little to change that. Instead, the constitution reinforces the tradition of executive supremacy by allocating to the President a wide (indeed excessive) "power of patronage", and a disproportionate share of the "power of the purse" and the power to make law, and of course, the usual monopoly of the "power of the sword", which everywhere belongs to the President as "Commander-in-Chief". Only the "power to pronounce judgement" is left completely in the hands of the judiciary, but even here the President wields a good amount of influence and leverage through the powers of patronage and the purse.

perspectives. First, the majority of the members of both the Council of State and the Judicial Council are also appointed by the President. Consequently, there is no record of the Council of State ever rejecting a President's nomination. Therefore, the constitutional arrangement requiring Presidential appointees to approve other Presidential appointees is almost a formality.

Second, the 'politics of majoritarianism' that characterises the Ghanaian parliament, and the fact that elections since 1992 have produced a President whose party also controls Parliament weakens the checks and balance effect of parliament on executive power. Hence, the Executive arm of government effectively dominates the judicial appointment process with ramifications for judicial independence. This condition, in turn, has historically affected property rights protection and contract enforcement adversely, especially when the two institutions (executive and judiciary) clashed. The political history of Ghana is replete with many examples of assault on the judiciary, particularly by democratically elected Presidents. Contemptuously, Dr Kwame Nkrumah (President of the first republic) decline to release three political detainees, who were acquitted by Ghana's highest court for the alleged 'Kulungugu bomb attack' on the President's life, because he did not like the verdict.

The action of the President was not necessarily contrary to Ghanaian law. Clothed with substantive legal powers, he requested the setting up of the Special Criminal Division of the High Court. He could even by an executive instrument (as per the amendments that were made to the laws setting up the Special Criminal Division) declare the decisions of the court to be of no effect (Harvey, 1966). Exercising this power, the President declared the decisions of the court in the treason case mentioned above void, thus invalidating the acquittal of and conviction of the accused offenders – Tawia Adamafio, Ako Adjei, Coffie Crabbe, Yaw Manu, and Richard Otchere[81] (Harvey, 1966).

Further, Article 45, Section 3 of the 1960 constitution (later inserted at the request of the President and approval through a national referendum) required a minimum of two-thirds of the Members of Parliament to pass a resolution to remove a judge on the grounds of stated misbehaviour or infirmity of body or mind. However, this requirement could have been met easily because the President's party – Convention People's Party - overwhelmingly dominated the first republican parliament. Apart from the dismissal of the Chief Justice, Sir Aku Korsah, who presided over the Kulungugu treason case, other judges were subsequently dismissed without following due process - Justices Edward Akufo-Addo, Adumua-Bossman, Henry Prempeh and Blay.

Similarly, Dr K.A. Busia's (Prime Minister of the second republic) comments and actions in the *Salla v Attorney-General case* typify executive supremacy over the judiciary. In this case, 568 public

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[81] Special Criminal Division Instrument, Ex. Instrument 161/63. All five defendants were later retried under a revised procedure and on February 8, 1965, were convicted of treason and sentenced to death. The sentence was however commuted to imprisonment.

servants were dismissed on 21 February 1970 from a presidential commission, acting under a constitutional provision. Sallah, a former Ghana National Trading Corporation (GNTC) manager was one of the affected workers. He took the matter to the Supreme Court for a declaration that upon proper interpretation, his office fell outside of the offices contemplated by that constitutional provision. The Prime Minister, Dr K.A. Busia, commented that even though the Supreme Court had ruled in favour of the declaration sought by Mr Sallah, "no court" could compel Government, or for that matter, any employer, to employ a person it does not wish to work with according to common law practice.

Moreover, the release of three political party members of the National Democratic Congress (NDC) by the President (John Mahama) after their incarceration into jail by a court for verbally attacking the judiciary (Supreme Court) in 2016 further supports the undermining of judicial independence. Alistair Nelson, Godwin Ako Gunn and Salifu Maase (alias Mugabe) popularly referred to as the *'Montie 3'*, were members of the ruling party, who were convicted of contempt by the Supreme Court and jailed for four months in addition to a fine of GHS10,000 each. The three had threatened to kill Justices of the Supreme Court (like how three other judges were mysteriously murdered in 1979) following their handling of a lawsuit that challenged the credibility of Ghana's voters' register, which arguably benefited the incumbent government. Following a petition by leading members of the ruling government, the President, who doubled as the leader of the party, remitted the four months prison sentence handed to the three convicts, based on presidential prerogatives granted by the constitution.

As if the constitutional role of the President to appoint judges is not enough, judicial independence is further weakened by the failure of the constitution to cap the number of justices the President could appoint to the Supreme Court[82]. In effect, the judiciary, particularly the Supreme Court is subject to Executive manipulation at any time for political purposes. For instance, the *Tsatsu Tsikata v the Attorney-General case* is a typical demonstration of this weakness. On 26th June 2002, the enlarged panel of the Supreme Court including the newly appointed Justices, by a 6:5 majority overturned the earlier verdict of the court, and accordingly declared the Fast Track Court (set up to speed up cases) constitutional. Tsikata, a former government office holder under the then former government was eventually convicted to a five-year imprisonment term on charges of woefully causing financial loss to the state. The President's - John Agyekum Kuffour - appointment of additional Supreme Court judges, after the government had requested a Supreme Court review of an earlier ruling that declared the fast-track division of the high courts as unconstitutional, fostered the impression of executive manipulation of the judiciary.

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[82] See Article 128 (1) of the 1992 constitution stipulates that "Supreme Court shall consist of the Chief Justice and not less than nine other Justices of the Supreme Court".

Besides institutional manipulation, the members of the judiciary have also suffered physical assaults, with some dying in the process. Three High Court judges[83] were killed by anonymous assailants in 1979. This event occurred after some treason offenders[84] who were legally sentenced to death after trial by a court of competent jurisdiction returned to power (through another coup d'état). Recently in 2017, private security operatives of the incumbent New Patriotic Party-led government also invaded a court and man-handled the judge and set free their colleagues who were summoned before it for illegally attacking and removing a presidential appointee from his office. These attitudes of the Executive and their operatives probably does not help to attract the best minds to serve the state, as judges, especially at the lower courts where the development of the law relating to private contracting is most beneficial. Especially in an area such as mortgage financing where the government's dominance was very heavy, private persons challenging state organisations through the courts were presented with a difficult problem. A judge's decision in favour of a private borrower against a state bank could well mean an indirect affront to the military top brass or President, depending on the regime. Factors such as these were far more critical in the guarantee of private property rights and contract enforcement than the origins or nature of the legal rules themselves.

The character of judicial independence from the independence period to date remains conditional on the parties involved in a legal issue contrary to the maxim that the law is no respecter of persons. The Executive arm of government has had a superior influence on the judiciary, occasionally as compared to before, undermining the authority of the institution. Businessman Osei Safo's cargo handling facility was not released to him in defiance of a court ruling against the government for unlawful seizure (Ghana Review International, 1995). Besides this case, the conduct of Ghanaian Presidents in other cases like *Salla v Attorney-General, Tsatsu Tsikata v Attorney-General,* and the *Montie 3,* coupled with recent corruption issues in the judiciary have created a sense of mistrust in justice delivery. Consequently, affected persons fearing they might not get a fair and adequate legal redress, perhaps even worsen their plight, do not seek legal redress or waited until the incumbent government was out of power before proceeding to the courts. These affected persons included Yusif Ibrahim (owner of US$5 million Piers Hotel, which was demolished by government agents), and the Djentuh family (whose 35 estate buildings were demolished). Moreover, not even all complainants got a hearing in the court. For instance, the courts failed to hear the case brought by J.A. Addison against the government for breaching his rights to first purchase of government shares in Ghana Cement Company (GHACEM) and the abrogation of his long-term contract to supply paper sacks to the same company (Opoku, 2010).

[83] Justices Kwadwo Adjei Agyepong, Poku Sarkodie, and Cecelia Koranteng-Addow.
[84] Flight Lieutenant Jerry John Rawlings

5.5.3 Private Property Rights and Enforcement

Except for the first Republican constitution, the subsequent constitutions (1969, 1979, and 1992) guaranteed fundamental human rights including the protection of private property. While Article 18 (1) of the 1992 constitution only guarantees a '*right to own property either alone or in association with others*', a purposive interpretive posture adopted by the Ghanaian Supreme Court[85] and now backed by legislation[86] shows a tendency to extend rather than limit what may be considered as protection of the right to property. This provision expressly includes a prohibition of unlawful interference with property[87]. Rights in property include the rights of mortgagors to interests held in property and the equally significant rights of mortgagees to realise security in mortgaged property. An express constitutional recognition of a right to property, therefore, has overall positive implications on the recognition of parties' rights in the context of mortgage financing.

While a black letter law[88] recognition of rights is essential; it is probably not enough. The Ghanaian court system is noted for long delays in justice delivery. Thus, an express recognition of rights may be rendered ineffective, in some cases, by an inability to enforce those rights in a timeous manner especially when time is of the essence. Between 1972 and 2008, collateral could not be realised without a judicial sale as provided by the Mortgages Act, 1972 (N.R.C.D 96). Indeed, non-judicial foreclosure was outlawed as per Section 18(9) of the Act. The judicial sale process took about two years on average for creditors to realise collateral, which was the most time-consuming in the world (Butler et al., 2009). Since legal and economic reforms do not occur in a vacuum (Tangri, 1992: 98), such an unfriendly market approach to contractual problem resolution could be attributed to the socialist ideology of most governments after independence. The underlying principle of the law was to protect society and individuals from the profiteering capitalists. This attitude towards capitalists represents a deviation from the expected market-friendly legal rules of the common law tradition (*c.f.* LLS, 2008). Instead, the legal rules reflected shared norms of the people than superficial hard-wired features of its origin (see Pistor, 2009).

Another reason for the character of this law is that while military era laws were not in their very nature bad laws; indeed, some of Ghana's most enduring legislation have been the result of military-era law-making, the obvious missing element is the interposition of a democratically elected legislature. Questions about how far private banks and mortgage financiers were willing to commit vital funds into the financing of schemes backed by governments whose very tenure was unpredictable are valid. There were no less than four coup d'états between 1972 and 1981. Therefore,

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85 Tufour v Attorney-General [1980] GLR 637; Agyei-Twum v A-G & Akwetey [2005-2006] SCGLR 732

86 See the Memorandum to the Interpretation Act, 2009 (Act 792)

87 Article 18(2), Fourth Republican Constitution of Ghana, 1992.

88 Black letter law is the recognition of rights as expressly indicated in legislation.

participating banks, knowing the inherent political instability of military regimes, refused to rely on a state-sponsored guarantee scheme[89] that could be taken away the next day by another amending decree or by another coup d'état. The situation was worsened by the fact that capitalist entrepreneurs were also perceived as corrupt, self-seeking, and inimical to societal progress. Indeed, the first President of Ghana, Dr Kwame Nkrumah, who was an ardent socialist, submitted that it was *"only under socialism can we reliably accumulate the capital we need for our development[90]"*.

Therefore, the period between 1979 and 2000, which was led by a military leader who subscribes to Kwame Nkrumah's socialist ideals, were characterised by the persecution of capitalist entrepreneurs and private businesses by the government. These were mostly people that were believed to be funding opposition political parties[91]. The following examples are outstanding. First, a day before the institution of the Fourth Republic (January 6, 1993), the leader of the military government – Flight Lieutenant Jerry John Rawlings - signed 23 new decrees confiscating the assets of some entrepreneurs retroactive to 1982 (Ninsin, 1996:29). Also, the new government in the Fourth Republic led by the National Democratic Congress (NDC) attempted to create a Serious Fraud Office (SFO) with sweeping powers to *'freeze assets and bank accounts of a person being or about to be investigated'* (West Africa, 1993: 1590). In addition, J.A. Addison, owner of Multi-Wall Paper Sacks, lost his right of pre-emption to purchase the shares of the government in GHACEM – a cement manufacturing company – when the latter offloaded its shares in addition to his long-term contract to buy cement sacks from him. This action was taken after he refused an invitation to join the ruling NDC government. According to Opoku (2010), the courts failed to hear the case when he sued, probably because of the fear of the military.

Further, the experience of Osei Safo, owner of Combined Farms – an agro-exporting business - illuminates how the government undermined private property rights. He lost his cargo handling facility, which sat on a 40-year leased land by an order to vacate the land from the landlord, the Ghana Civil Aviation Authority, under the instruction of the President. In violation of a court injunction, the President (Flight Lieutenant Jerry John Rawlings) led a team of soldiers to close down the facility, only to later hand control to a foreigner (Ghanaian Chronicle, 2001). Despite winning the court case against the government, his facility was not released to him (Ghana Review International, 1995). According to Opoku (2010), all of his woes started after the President, who was his close ally found out about his secret financial donations to the opposition party.

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[89] National Mortgage Financing and Guarantee Scheme Act, 1976 (S.M.C.D 23).
[90] Dr. Kwame Nkrumah
[91] The Danquah-Busia tradition has historically been associated with liberal democracy and economic policies, and has therefore tended to draw its strongest support from businesspeople *inter alia*.

The Augustus Tanoe case highlights the politicisation of credit and banking policy in Ghana. Augustus Tanoe was persecuted for rebelling against his political party after another person – John Atta Mills – was chosen over him for the position of Vice President. The government was accused of politically interfering in his cassava chips exporting company, called Transport and Commodity General (T&CG) in ways that resulted in liquidity problems. Not only did it appear that the government was monitoring the accounts of bank borrowers but also controlled bank credit allocations. Besides naming opposition businesspeople that had taken bank loans in an interview with the State newspaper (Daily Graphic) on 19 June 1993, the President dismissed the Managing Director of the state-owned National Investment Bank, accusing him of fraudulently granting loans to the opposition bigwigs.

Moreover, on suspicion of fraternising with Augustus Tanoe's breakaway Reformers Party, Yusif Ibrahim's over US$5 million Piers Hotel (a two-storey 65-room four-star hotel in Accra) was razed down by soldiers, headed by the ruling party's loyalist S.A. Addo (Africa Confidential, 1999). Among the many so-called properties built on waterways, his property, which shared a common wall with the house of the then Foreign Minister was the only affected property. Also, firms belonging to opposition capitalists – B.A. Mensah, K. Safo-Adu, and S.C. Appenteng – were forcibly closed down or confiscated (Opoku, 2009). Similar to the reign of Kwame Nkrumah (1957 – 1966) (Rathbone, 1973), the most successful entrepreneurs were severely weakened.

The "Djentuh Affair" (Ghanaian Chronicle, 2000) or 'Djentuh Palaver' (Crusading Guide, 2000) also emphasises the threat to private property during the period. After calling off his engagement to one of the President's daughters, Selassie Djentuh was arrested, detained, and tortured at the residence of the President, the Castle in January 2000 (Opoku, 2010). Besides, soldiers razed down 35 houses owned by the Djentuhs' real estate company, claiming that the land was not legally theirs (Opoku, 2010). Historically, land rights and tenure security problems have also posed a significant obstacle to property rights protection. While the scope of land rights under Ghana land law is not by themselves unclear, the extent of possession, indeterminate boundaries, and historical ownership are the usual causes of land disputes. These disputes numbering about 66,000 have clogged the courts (Arko-Adjei, 2005; Sittie, 2006).

Regarding mortgage foreclosure, there are contradictions in the rules specified by the Mortgages Act, 1972 (N.R.C.D. 96). At one end, N.R.C.D. 96 provided for the enforcement of mortgage contracts according to the terms agreed on by lenders and borrowers, which appears to be market-oriented and respecting of the choices of lenders and borrowers[92]. On the other hand, it allowed little room for parties in the resolution of matters surrounding default. Parties are only permitted terms that do not

[92] See for example section 5 of the Act.

explicitly contradict N.R.C.D. 96[93]. The new Home Mortgage Finance Act, 2008 (Act 770) however contains two features that seek to enhance the protection of creditors. First, creditors can foreclose peaceably and realise collateral upon default by serving only a notice of motion[94] to the defaulter and the court, without the prolonged time and cost of judicial sale. The second is the liquidity and flexibility that the express statutory recognition of floating charges in Act 770 provides. The floating charge operates to expand the assets that may be used to collateralise a mortgage loan fluidly. Financial dealings between mortgagee and mortgagors can then take account of changing values of the underlying collateral assets.

These characteristics of Act 770 are in line with the theoretically hypothesised nature of the common law - protection of creditors and contract enforcement. The adaptability of the common law has enabled legislators to create innovative concepts such as the floating charge. It might be appropriate to attribute these changes in the law, first, to the characteristic adaptability of the Common law, and second, to the growing need of Ghanaian private businesses for speedier and more specific means of foreclosure. Floating charges were, however, more firmly recognised in England long before Ghana legislated it in Act 770 in 2008. In this way, the development of the new features deviates from the LLSV theory in the sense that while floating charges are a peculiar feature of the common law, the statutory recognition of this concept in Ghana was only a result of businesses lobbying the relevant political players and not judge-made law.

5.5.4 State Ownership of Banks

Under the fourth Republic, starting from 1992 and led by the National Democratic Congress, an avowed socialist government, the state together with a quasi-state institution, the Social Security and National Insurance Trust (SSNIT) with the support of the World Bank as part of the Ghana Urban II[95] project established the Home Finance Company. The start-up capital of US$24.2 million was supplied by the SSNIT (US$16.2 million) and the World Bank (US$8.2 million) (Boamah, 2010). The initial owners of the Home Finance Company (now, HFC Bank) were the Government of Ghana and two of its parastatals - SSNIT and Merchant Bank (Ghana) Limited. Attempts to widen shareholding did not yield much result. For instance, despite the subsequent widening of shareholding to include three insurance companies, namely, State Insurance Corporation, Ghana Union Assurance (GUA) and Vanguard Assurance, the state and its quasi-institutions still held about 80% of the Home Finance Company as shown in Figure 5.3.

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93 See section 2 of the Act.
94 See Donkor-Hyiaman and Ghartey (2017) for explanation of a *notice of motion*.
95 The Urban II project was an International Development Agency (IDA)-funded infrastructural development project.

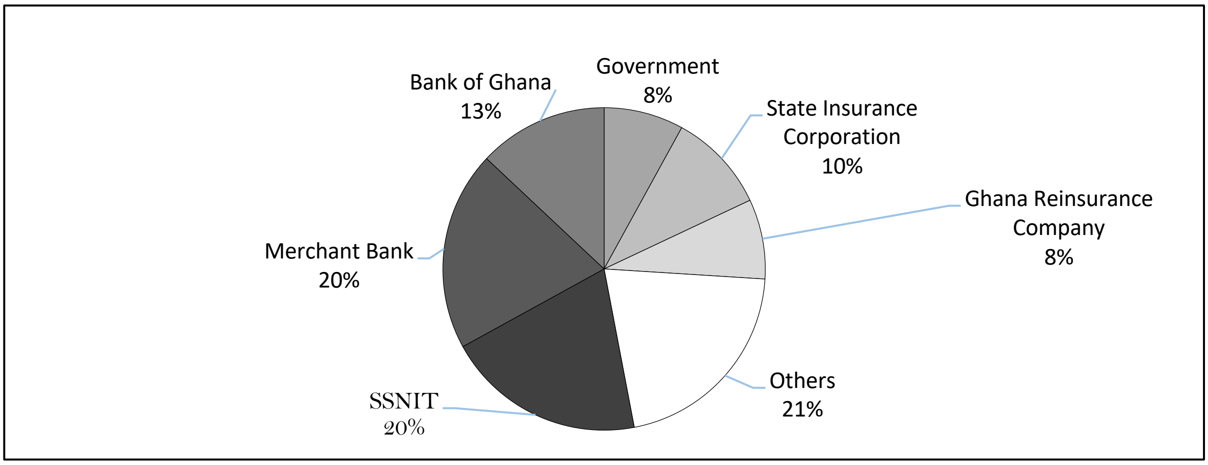

Figure 5. 3: Shareholding Structure of the Home Finance Company

Source: Ansah (1996)

In 1995, the Home Finance Company further opened up 25% of its shareholding to the public, which brought its ownership into the hands of 300 shareholders, and yet 12 institutions, mainly public institutions, control over 98% of the company (Ansah, 1996). Subsequently, the Home Finance Company issued the Ghana Stock Exchange's first-ever corporate bond in 1996 and later issued housing bonds to fund its mortgage lending activities. These bond offerings were also dominated by the state and the SSNIT, which together supplied on average 65% of funds between 2000 and 2005 as shown in Table 5.3.

Table 5. 3: HFC Bank Bond Holders

Bond Holders	2000	2001	2002	2003	2004	2005
Ghana Government	30,145	37,870	44,034	49,362	57,401	64,523
SSNIT (National Pension Fund)	60,221	87,609	103,246	115,738	133,448	151,286
HFC Unit Trust	507	648	748	535	-	-
HFC \$ Housbond	71,841	69,076	78,956	63,945	59,634	50,253
HFC £ Housbond		12,906	16,068	18,818	20,877	18,829
Total Value	162,714	208,109	243,052	248,398	271,360	284,891
State Ownership (%)	56	60	61	66	70	76

Source: Akuffo (2005)

Note: The total value of bonds is the sum of subscriptions by the various entities – Ghana Government, National Pension Fund (SSNIT), and other corporate entities such as the HFC Unit Trust and HFC Housbonds. The percentage of state ownership is the sum of Ghana Government and SSNIT subscriptions divided by the total subscriptions.

Regarding performance, the Home Finance Company originated a total of 4,653 mortgage loans equivalent to approximately US\$63,442,295 in a 15-year period (1992 to 2007). This performance constituted about 0.3% of GDP averagely and about 0.5% penetration level regarding population. In value terms, the most significant amount of mortgage loans was originated in 1998 (~US\$7,000,000) and the lowest in 2004 (~US$1,845,740). On average, the Home Finance Company originated 291 mortgage loans and approximately US$3,965,143 per annum. The first decade (1994 – 2004) of its existence saw a significant downward trend in mortgage originations from 824 to 82 as shown in Figure 5.4.

In recent times, starting from the millennium, the state has withdrawn from both direct and indirect supply of mortgage finance. It has divested its interests in mortgage finance institutions entirely. Whether by coincidence or design, private sector participation has subsequently increased over the last decade with about four major banks — Fidelity Bank, CAL Bank, Stanbic Bank, and Ecobank — and one non-bank financial institution — GHL Bank (previously, Ghana Home Loans) — entering the mortgage market. This shift in market structure and the inflow of private capital can be ascribed to the relatively conducive business environment prevailing after the change in government at the beginning of the millennium and improved creditor rights. The hostile government-business environment reigning between 1979 and 2000 characterised by fear, private property risk and judicial suppression (see Opoku, 2010), may have resulted in private investors protecting themselves by hoarding their funds.

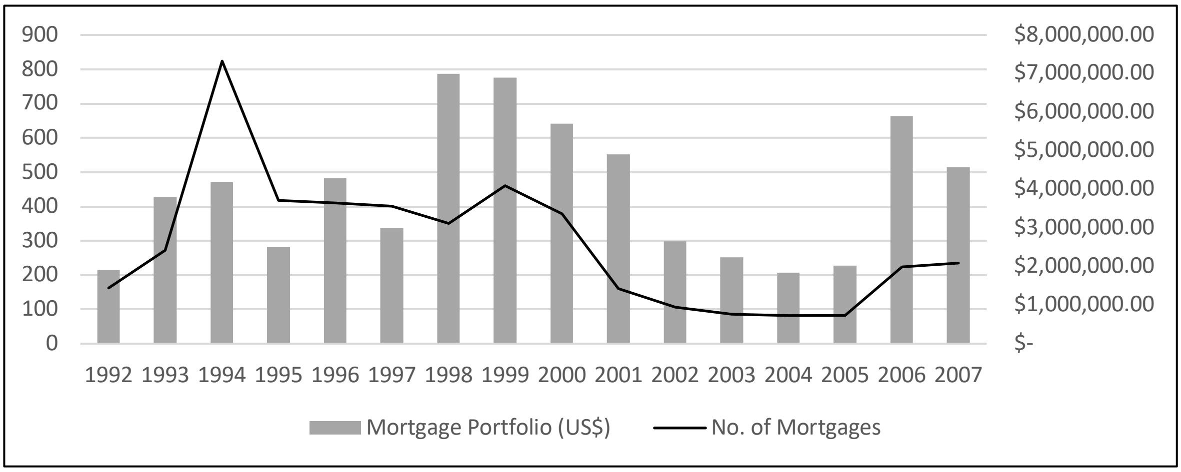

Figure 5. 4: HFC Bank Mortgage Portfolio Statistics: 1992 – 2007.

Source: Akuffo (2006) and Boamah (2010)

Market leadership has also shifted from the Home Finance Company (now HFC Bank) to the GHL Bank as at 2013 as shown in Table 5.4. GHL Bank's market share increased by about 20% from about 27% in 2008 to about 47% in 2013. Conversely, the HFC Bank had seen its market share drop by 3% from about 30% in 2008 to 27% in 2013. The total mortgage market value has also increased by about US$50.78 (from US$126.22 to US$177) between 2008 and 2013 - approximately 40% increment. On the one hand, the increment in mortgage market value signals the inflow of private capital both domestic and foreign into the market. This condition is a sign of relatively higher confidence in the current business environment compared to the pre-millennium era. On the other hand, considering the target market of these new market entrants, mostly high end, it is reasonable to argue that the increment in market size may be due to high house prices and not necessarily a notable increase in access and therefore mortgage originations. Indeed, just about 3% of Ghanaians can afford a mortgage to purchase the cheapest developer-built housing unit (Akuffo, 2009).

Table 5. 4: Mortgage Finance Performance (2008 – 2013)

Mortgage Institutions	Mortgage Portfolio Value (US$m)		Market Share (%)	
	2008	2013	2008	2013*
HFC Bank	37.9	47	30.03	27
Ghana Home Loans	34.1	84	27.02	47
Barclays Bank	31.5	12	24.96	7
Fidelity Bank	14.9	24	11.81	14
GCB	6.6	4	5.23	2
SG-SSB	1.2	-	0.95	-
Amal Bank	0.017	-	0.01	-
Cal Bank	-	6	-	3
Total	126.22	177	100	100

Sources: Bank of Ghana (2008), Akuffo (2009), Donkor-Hyiaman (2011), *Ghana Home Loans (2013).

The table also shows that the mortgage finance market is concentrated in about five financial institutions, with the top two (Ghana Home Loans and the HFC Bank) accounting for about 74% of market size. The Barclay Bank is no longer active in the market. Further, the HFC Bank was the subject of a mandatory take-over in May 2015 by the Republic Bank of Trinidad and Tobago (RBTT), which held about 57% controlling stake in it. However, before this take-over, the HFC Bank's core business significantly shifted away from mortgage lending towards commercial banking, starting from 2003 when it obtained a commercial banking license. Despite improvements in the institutional and regulatory framework, Ghana's mortgage finance market contributes 1% GDP ratio. This performance is nascent compared with about 33% in South Africa; 18.2% in Namibia; 13.9% in Morocco and 9.3% in Tunisia (CAHF, 2017) is still nascent.

5.6 Conclusion

This part of the study investigates why Ghana received the common law, hypothesised as more favourable to financial market development, but has historically had weak private property rights and not yet developed a bigger mortgage finance market. The Institutional Autopsy approach, set within a case study framework allowed us to examine the channels through which legal origins are expected to affect financial development. The discussion of the evidence so far shows that the relationship between mortgage law and finance goes beyond destiny, which is predetermined by the historical origins of Ghana's legal tradition – Common law. The Common law heritage of Ghana has influenced the institutional form and setting of legal development. Its impact on the content of mortgage laws and for that matter the function and organisation of mortgage institutions have however been minimal and not according to expectation in most cases concerning private property rights protections, judicial independence, state dominance of financial institutions and regulation. Politics appear to be a vital factor often ignored.

The four institutional autopsies reveal that both the political and adaptability channels through which the common law tradition affects financial development have been constrained for the most part of Ghana's political and economic history as summarised in Table 5.5. Referred to as the law of property rights (Littleton, 1481; Coke, 1628), the common law developed to protect private property owners against the crown[96] (Merryman, 1985) according to the Political channel (Beck et al., 2003). However, in the case of Ghana, there has been persistent state dominance over private property rights since independence. State dominance has been concerning the ownership of financial institutions and heavy regulation. During the period of analysis (1940 – 2017), it was observed that state dominance has been associated with weak private property rights in credit and their enforcement. Coupled with weak judicial independence often subordinate to Executive powers of patronage and the purse, private investment in the mortgage market has been scarce. Characterised by cronyism and corruption, especially during the 1966 – 1992 period, state power also threatened the sustainability and performance of state-owned mortgage finance institutions and thus mortgage finance development. This line of thought is consistent with the evidence that higher state ownership of banks in the 1970s correlates subsequently with slower financial development (La Porta et al., 2002).

Weak private property rights and judicial dependence associated with state dominance could be due to the contradictions emerging from the dual role of the state as an economic agent and the enforcer of contracts. As an economic agent that owned the mortgage finance institutions, it was directly involved with financial contracting with other economic agents like borrowers, investors and entrepreneurs. The contradiction emerges when the state, which is a party to a mortgage contract, is the same institution that supplies the legal infrastructure concerning both systems and human capital to enforce it. The effect was the undermining of judicial independence by governments, which adversely affected the protection of private property rights during confrontations between the state and opposing private investors, entrepreneurs and borrowers among others.

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96 Seventeenth common law was known as the law of property rights. English common law attained its modern form in the tumultuous sixteenth and seventeenth centuries when Parliament and the English kings battled for control of the country. The Crown attempted to reassert feudal prerogatives and sell monopolies to raise revenues but was opposed by Parliament. Ultimately, the Crown was unable to reassert feudal privileges and its ability to grant monopolies was also severely restricted. The courts asserted that the law is king and limited the Crown’s discretion to alter property rights. Thus, in comparison with France during the sixteenth and seventeenth centuries, English common law was a source of liberty and a champion of private property rights.

Table 5. 5: Summary of the Predicted and Actual Character of the Legal Regime for Mortgage Finance Development in Ghana

Variable	Predicted Character	Actual (De jure) Character	Actual (De Facto) Character
Property Rights	Strong property rights	Guaranteed by constitution	Abuse of property rights
Ownership of Banks	Lighter state ownership of banks	State ownership sanctioned by law	Heavy state ownership of banks (1957 – 2005)
Market Regulation	Lighter state regulation	State regulation sanctioned by law	Heavy state regulation of entry and prices (interest rates)
Judicial Independence	Less formalized and more independent judicial systems	Guaranteed by constitution but subject to executive powers of patronage and the purse (funding)	Executive abuse of the judiciary
Contract Enforcement	Efficient contract enforcement	Sanctioned by law under judicial supervision	Inefficient contract enforcement Judicial sale

Improvements in creditor rights protection in recent times has been due to legislation by Parliament rather than judge-made law, contrary to the adaptability channel. This condition could be attributed to weak judicial independence resulting from constitutional defects that empower the Executive arm of government over the judiciary and the long history of political instability characterised by military coup d'état between 1966 and 1992. Often, the democratic institutions of government such as the judiciary are suspended during periods of coup d'états. Coupled with an atmosphere of fear, judges could not deploy their discretion to make laws against state power, which could have been a confrontation with the coup-makers and the government of the day. Judicial independence has thus largely depended on executive liberties, since the constitution although guaranteeing it, by design limits its, in terms of the Executive control of the power of the purse and patronage. Democracy has thus not necessarily ensured the protection of private property rights at all time. In effect, defective mortgage legal rules could not be adapted to the changing contracting needs of the economy by way of judicial discretion as the adaptability channel expects (Beck et al., 2003)

It therefore, appears that mortgage laws were enacted to satisfy political interests. State policy was primarily driven by socialist ideals to reduce the activities of many capitalists, people in business and investors who were perceived as political opponents and saboteurs of the economy. Thus, it is not surprising that regulation created entry barriers to restrict private participation in mortgage financing. For instance, before 1972, existing laws did not provide a general regulatory framework for mortgage financing; but instead created structures for the establishment of special circuit housing finance institutions like the First Ghana Building Society. Meanwhile, the Building Society Ordinance, which was a general law for regulating the establishment and operation of building societies contained unfavourable provisions that made private investments unattractive. For instance, the government was allocated more shareholding rights than private investors for the same amount of capital contributed. This condition potentially opened these institutions to political manipulation.

Besides, government guarantee schemes were selective and thus altered the risk landscape disproportionately. For example, while state-owned mortgage finance institutions pre-selected to participate in the mortgage scheme initiated by the Home Finance Company were granted foreclosure rights by law, non-participating financial institutions, which were mostly privately owned, did not have such rights. Not all of these practices augured well for mortgage finance development in Ghana. In recent times, since 2008, we see an entirely different picture of the state pulling out of direct housing finance, and thus allowing market forces to allocate mortgage resources. This move coincides with the global shift in the role of governments from direct providers of goods and services to enablers and facilitators of production.

CHAPTER SIX

CONCLUSIONS AND DISCUSSION

6.0 Introduction

This project started as a research into the feasibility of pension asset-backed housing finance in Ghana, with possible application to other developing countries. The idea was informed by an earlier Masters Degree thesis that indicated the potential of pension assets serving as alternative collateral assets and providing the much-needed long-term funds for the financing of mortgages. It was however not long when it became clear that the problem with residential mortgage financing in Ghana and developing countries at large was more than the lack of long-term sources of funding and collateral inefficiency. Indeed, these outcomes are a function of more fundamental factors such as macroeconomic weaknesses and poor creditor rights protection. Therefore, to improve the design and applicability of any possible solution, it was necessary to have a better *apriori* understanding of mortgage underdevelopment by studying why some developing countries have developed better mortgage markets than others. It was this new perspective that formed the basis and motivated the aim of this thesis.

Besides being an interesting topic, the dearth of comparative finance research on the systematic nature, performance and analysis of mortgage finance development not only in developing countries, but also in developed countries made this research necessary and worthwhile. The very nature of the goal to be achieved, the search for some universal laws of mortgage finance development, dictated the research approach adopted - cross-country study. The specific type of cross-country study and method adopted was then limited by the availability of data. The lack of longitudinal data covering a broader set of countries limited the few existing cross-country studies (i.e. Warnock and Warnock, 2008; Butler et al., 2009) to cross-sectional analyses. Panel data studies were also largely based on highly unbalanced data either including a few developing countries (see Badev et al., 2014) or exclusively on Europe (Kutlukaya and Erol, 2015). This gap made the application of the findings of these studies to developing countries difficult but at the same time, further strengthening the need for this study.

As would emerge from the review of the extant literature, financial development is a multifaceted concept with at least four dimensions that could be studied: access (or inclusion or penetration), depth (or size), efficiency, and stability. However, due to data limitations, especially on mortgage finance, the few existing studies largely focused on the depth of the mortgage finance markets. Our initial assessment of mortgage debt as a proportion of GDP, which is the most popular measure of mortgage depth in relation to existing theories of financial development revealed some striking discrepancies. A collection of theories, popularly called the Endowment theories links the legal origins of the legal systems of countries, culture, and geography and the disease environment to the varying degrees of financial development observable. For instance, the idea that countries that adopted the common law would develop stronger property rights systems that will in turn promote more financial development is questionable in many of the former colonies like Ghana, Nigeria, Kenya, Liberia, India, and Egypt, among others.

Despite being endowed with what is perceived as a more favourable legal institutional system (i.e. the common law), these countries have not developed stronger property rights systems and better mortgage finance markets than their civil law counterparts. Indeed, the top three deepest mortgage finance markets (i.e. Denmark, Switzerland, Sweden) in the world have civil law traditions and not common law traditions. In developing countries, remarkable discrepancies exist between countries with the same legal origins. For example, both Ghana and South Africa have common law origins but the latter has developed a mortgage market that is about 30 times deeper than the former. These contradictions between the empirical data and theory, which emphasized nuances, further heightened our curiosity to investigate the phenomenon further using qualitative methods via case studies.

The principal aim of this study was therefore to investigate the extent to which mortgage markets enable housing finance and the reasons for wide variations in the development of mortgage markets across developing countries. The study followed the three-paper approach and thus examined three main research questions with sub-questions respectively. The objective of the first paper was to examine the determinants of mortgage depth across countries. This study provides a general understanding of why some developing countries have developed relatively deeper mortgage finance markets. Information and institutions have long been established as major determinants of resources allocation and thus financial development. Developing countries are often characterised by weak information sharing frameworks and institutions. Therefore, the study goes further to examine the role of institutions and credit information frameworks on mortgage deepening. The study then examines the effect of fundamental sources of institutions such as the level of economic development, legal origins, religion, and politics on mortgage deepening.

In the immediate study following the cross-country study, we were interested in understanding from other perspectives and methods, the factors that are either promoting or constraining mortgage finance development in Ghana. This is against the backdrop that Ghana has a common law heritage but has not managed to develop a well-functioning mortgage finance market since 1955 when the first attempts were made. Through a survey of stakeholder (including mortgage providers, financial analysts, researchers and developers) views, this study did not only serve as a form of triangulation for the cross-country study but was also instrumental in identifying both country-specific factors and other generalizable factors relevant to mortgage finance development. It would emerge from the findings that the relevance of law was subordinate to macroeconomic weaknesses, land administration weaknesses, housing market constraints and information sharing problems, on a stakeholder perception basis.

However, the reason why the law was still problematic to mortgage finance development in a country like Ghana was unknown at this stage. This would be discovered in a third study motivated by an inquiry into why Ghana's common law traditions have not engendered stronger property rights systems and a well-functioning mortgage finance market consequently? Since the legal origin theory is inadequate in explaining this outcome, the goal of this study was to conduct an institutional autopsy of the transmission mechanisms through which the common law was expected to affect financial development. The overarching story behind the stark variations in mortgage finance development in developing countries is presented below.

6.1 The Story of Mortgage Deepening across Developing Countries

The development of mortgage finance markets is closely connected with overall financial development. Countries with bigger private credit markets tend to have bigger mortgage credit markets too. Like any market, both demand and supply factors in addition to the existence of viable projects affect the deepening of mortgage finance markets in developing countries. In summary, we find that mortgage finance markets in developing countries are more likely to deepen in highly urbanised developing countries that are characterised by higher incomes levels (middle-income threshold and upwards), macroeconomic stability, large economically active population who have better access to the financial system and long-term funds, and have lenders that are able to allocate mortgage credit relatively efficiently through public credit registers and whose rights are well protected by stronger institutional and regulatory frameworks.

These factors have varying explanatory powers. Financial inclusion makes the most contribution to mortgage and financial deepening both across developing countries and over time. As the number of bank branches per 100,000 people increases, mortgage and financial markets deepen. This is followed by stronger creditor rights, inflation volatility, inflation rate, credit information sharing, and contract enforcement. Over time, the relative importance of some of these factors changes. Factors like the size of the economically active population, life expectancy, and urbanisation become more important than the strength of creditor rights protection, inflation volatility and contract enforcement efficiency.

The study suggests that the process of mortgage finance development may begin with urbanization and housing supply constraints driving up house prices. This would be more intense in more desirable locations that are characterized by effective planning and development controls as well as strong landed property rights. With a planning system that keenly enforces developments controls in general and restricts urban sprawl[97], alternatives to large-scale, quality, and mortgage financed developer-built housing that come with some minimum level of well-planned infrastructure is likely to become intolerable in the first instance, more expensive and unaffordable subsequently to individuals. This condition thus necessitates some form of consumption smoothing via long-term financing like mortgage financing to make housing affordable. Given this affordability constraint, the need for financial (debt) resources intensifies. Higher income levels and increasing longevity in urban areas may engender surplus income coupled with the emergence of long-term savings policies and mechanisms like pension and insurance funds. These funds, mixed with some form of both domestic and external funds from investors could then be effectively channelled as mortgages to potential homeowners who need to smooth their housing consumption. This mechanism is most efficient in countries where mortgage credit can be allocated efficiently or credit rationing mitigated by lenders. These are the countries where lenders are able to minimize agency risks through both extensive credit information sharing among lenders *ex ante* and stronger creditor rights protection *ex post.*

It is worthy to note that although extensive credit information sharing is relevant for mortgage deepening conventionally (see Warnock and Warnock, 2008), our work suggests that it is conditional on the system that provides access to the credit information. In this regard, we find that while public credit registers are positively associated with mortgage deepening, private credit bureaus are negatively linked. In the absence of an established explanation, we wish to submit that this is suggestive of some form of information arbitrage associated with public credit registers, which provides access to only aggregate information on loan characteristics but neither the relevant micro-level loan performance information nor the creditworthiness of the borrowers as private credit bureaus provides. Therefore, potential borrowers who are screened with aggregate information from public credit registers other than private credit bureaus could free ride potentially good aggregate performance to subsequently access credit, which in turn deepens mortgage markets. This may be the case mostly in middle and high-income emerging economies and developing countries.

Although public registers benefit mortgage deepening statistically, especially in low-income countries, they are extreme limited in coverage; thus, making the ex poste creditor protection mechanisms via the law, the most effective. While previous studies have examined the effect of either mortgage legal rules in relation to creditor rights protection (Warnock and Warnock, 2008) or foreclosure efficiency in terms of law as enforced (Butler et al., 2009), our work provides results for both, which enables a comparison of their relative effects. Besides improving the quality of protection given to creditors via legal rules, mortgage markets are likely to deepen more if the

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[97] Development in peri-urban areas that have often not been properly zoned and infrastructure planning as well as provided.

efficiency of law as enforced is improved. In Ghana, non-judicial foreclosure process in particular have been useful and may be helpful in other developing countries.

While higher incomes levels deepen mortgage finance markets (see Badev et al., 2014; Boleat, 2008), this is only most helpful in middle-, and high-income developing countries. This is because mortgage finance markets are luxuries that only begin to deepen at higher income levels. Low-income negatively affects the size of the market as the results show. Increasing income levels improves mortgage affordability levels and effective demand as well as increase access to mortgage finance, which consequently deepens the market. Therefore, the sheer low-income levels, resulting in a lack of effective demand in some countries accounts for why mortgage finance has not emerged in those countries or is not a regular product offered by banks. Banks in these low-income countries often tend to be portfolio lenders that provide mortgages to their high net worth clients when it fit well into their loan portfolios (Karley, 2009). This may also be linked to a lack of a critical volume of demand that provides the required economies of scale to warrant investment. Therefore, rising income levels is like a rising tide that carries many potential homeowners onto the housing ladder. Countries seeking to deepen their mortgage finance markets must first deal with the income constraints.

Nevertheless, increasing incomes and affordability levels without improvement in the willingness of potential homeowners to use a mortgage to acquire their houses may not benefit mortgage finance development much. In this regard, policies that make mortgage financing more economically and socially attractive are needed. The economic viability of using a mortgage over other alternatives to homeownership must first exist, which would be reflected in relative prices (mortgage rates). Effective macroeconomic management underpinned by reduction in inflation rates and government borrowing on domestic money and capital markets, which affects base interest rates in addition to improvement in the credit information sharing frameworks and legal institutional environment may aid in driving down mortgage rates. Simultaneously, financial education in general and mortgage finance education in particular must be intensified to mitigate some of the undesirable cultural effects such as debt aversion and high power distance, which are sometimes driven by information asymmetries between potential homeowners and mortgage lenders. Improving property rights would not only benefit lenders, but would also be useful to mitigating any form of debt aversion that is due to weak legal rules and inefficient law enforcement mechanisms.

6.2 Stakeholder Perception of Mortgage Finance Development and Determinants in Ghana

The Ghana case study suggest that there are similarities and nuances in terms of what factors are affecting mortgage finance development from a stakeholder perspective. Similar factors such as legal institutional weaknesses, information sharing weaknesses, affordability problems, and macroeconomic challenges were identified by stakeholders. Additional factors outside the cross-country findings including land administration weaknesses, financial illiteracy, cultural constraints such as debt aversion, a lack of a culture in mortgage financing, and poor urban planning are considered significant limitations of the development of mortgage finance in Ghana.

In terms of the relative importance of these factors to mortgage finance development from the perspective of stakeholders, macroeconomic performance appeared as the most important. This is followed by housing market constraints (such as affordability and the lack of supply of affordable housing), land administration weaknesses, information sharing weaknesses, legal institutional weaknesses, financial illiteracy, cultural constraints. These factors relating to the required housing types and their location quality are some of the main characteristics of viable products that mortgage lenders would consider.

The macroeconomic challenges limited mortgage finance development through weak monetary and fiscal policy fundamentals. High inflation, high interest rates, and exchange rate fluctuations particularly increase prices against the low and irregular incomes of most Ghanaians and thus, worsens mortgage/ housing affordability levels and limits demand. Weak institutional factors including an inefficient land administration system typified by inefficient registration and titling, multiple sales of land, and indeterminate boundaries of many parcels of land hinder mortgaging and land rights in general. Weaknesses in credit institutions such as the outlawing of foreclosure rights before 2008 and the slow adjudication of disagreements and contract breaches due to inefficiencies in the court system significantly undermine the development of mortgage finance. Information sharing weaknesses have also been a long-term characteristic of the mortgage market in Ghana. It has weakened the ability of financial institutions to allocate credit efficiently, often leading to credit rationing.

Slum urbanism is another critical limitation, caused by rapid urbanisation and poor urban planning characterized by poor infrastructure and weak development controls. Despite an emerging property market that is partly dealing with the underinvestment in infrastructure and development controls, access is limited to a few rich people. This is largely due to the limited scale of these developers and the lack of affordable housing supply. There is however no guarantee of the willingness of most middle-income household to purchase developer-built houses given information asymmetries about quality issues and the high social value associated with self-help incremental housing. A culture of debt aversion may also prevent some potential homeowners from using a mortgage. All of these constraints will have to be addressed to stimulate significant and sustainable growth in mortgage finance in Ghana.

It is important to note that context is important in understanding the set of local factors affecting mortgage finance despite the relevance of cross-country evidence. The use of multiple methods also provides methodological complementariness that enhance our understanding of mortgage finance development both across countries and within countries.

6.3 Beyond Destiny: Bad Politics, Inappropriate Policies and Institutional Weaknesses

The reasons for strong and weak economic institutions and their implications for financial development are a source of much debate. The extant literature attributes this mainly to legal origins, culture, geography and the disease environment. Our findings do not provide much support for this body of knowledge. Both the results from the cross-country study in chapter three and the case study in chapter five, raise doubts about the applicability of those theories to the countries studied. We therefore argue that having the much-favoured common law per se or a Protestant-dominated population as traditionally held by proponents of the law and finance theories does not guarantee a strong creditor rights protection environment. Likewise, the common law does not necessarily guarantee mortgage deepening without a decent amount of financial market liberalization, democratic maturity, corruption control, strong judicial independence, effective government and political stability as well as a higher level of economic development. Contrary to popular belief, the common law and a Protestant-dominated population are not likely to be the fundamental sources of these characteristics in developing countries.

We submit that it is the lack of these features in many developing countries that may render the expected conditional effect of the common law tradition, geography or culture on the link between the quality of property rights and mortgage deepening weak, if such relationships exist at all. Weak judicial independence in Ghana for instance is not because of the lack of the common law but partly due to a tradition of Executive supremacy and the corruption of Executive powers fostered by a system of government that makes the Judiciary inferior to the Executive. In addition, extra-judicial activities undertaken by military governments during the long periods of political instability, particularly between 1979 and 1992, severely undermined judicial independence and property rights protection. This was to the extent that investors and entrepreneurs whose rights had been abused could not seek justice at the law courts, and even when they did, the courts were unwilling to hear such cases against the military government. The sidelining of the judiciary as illustrated by the institutional autopsies is not limited to only military governments but was also perpetuated under democratic rule. In fact, government and political systems that by design make the Judiciary and Parliament appendages of the Executive arm of government such as the Ghanaian system may be detrimental to the development of the necessary conditions identified above.

It is these underlying policy choices and conditions rather than Ghana's destiny hardwired to its common law heritage that most likely determined the quality of property rights protection with ramifications for mortgage finance development. The fundamental source of this weakness could be attributed to politics of the kind that promotes corruption and government ineffectiveness. In addition, politics that abhors market economy principles such as private sector development not on the basis of its inappropriateness given unsuitable economic conditions but basically on political ideological grounds may undermine financial development in general. Indeed, it is submitted as per the findings of the institutional autopsies that the level of judicial independence, quality of creditor rights, contract enforcement efficiency and the state's involvement in markets in terms of regulation and ownership of financial institutions are more likely to be politically determined by government policy than by a countries legal heritage. As found in the cross-country study, estimates of corruption control and government effectiveness are very good replacements for the property rights variables. Corruption thrives on opaque systems. High incidence of corruption in Ghana especially during the 1960 – 2000 period did not only contribute to the weakening of property rights but may also be a reason why credit information systems did not emerge until about a decade ago. Thus, the necessary conditions for the protection of creditors and investors were non-existent historically; a fundamental reason for mortgage finance underdevelopment in Ghana.

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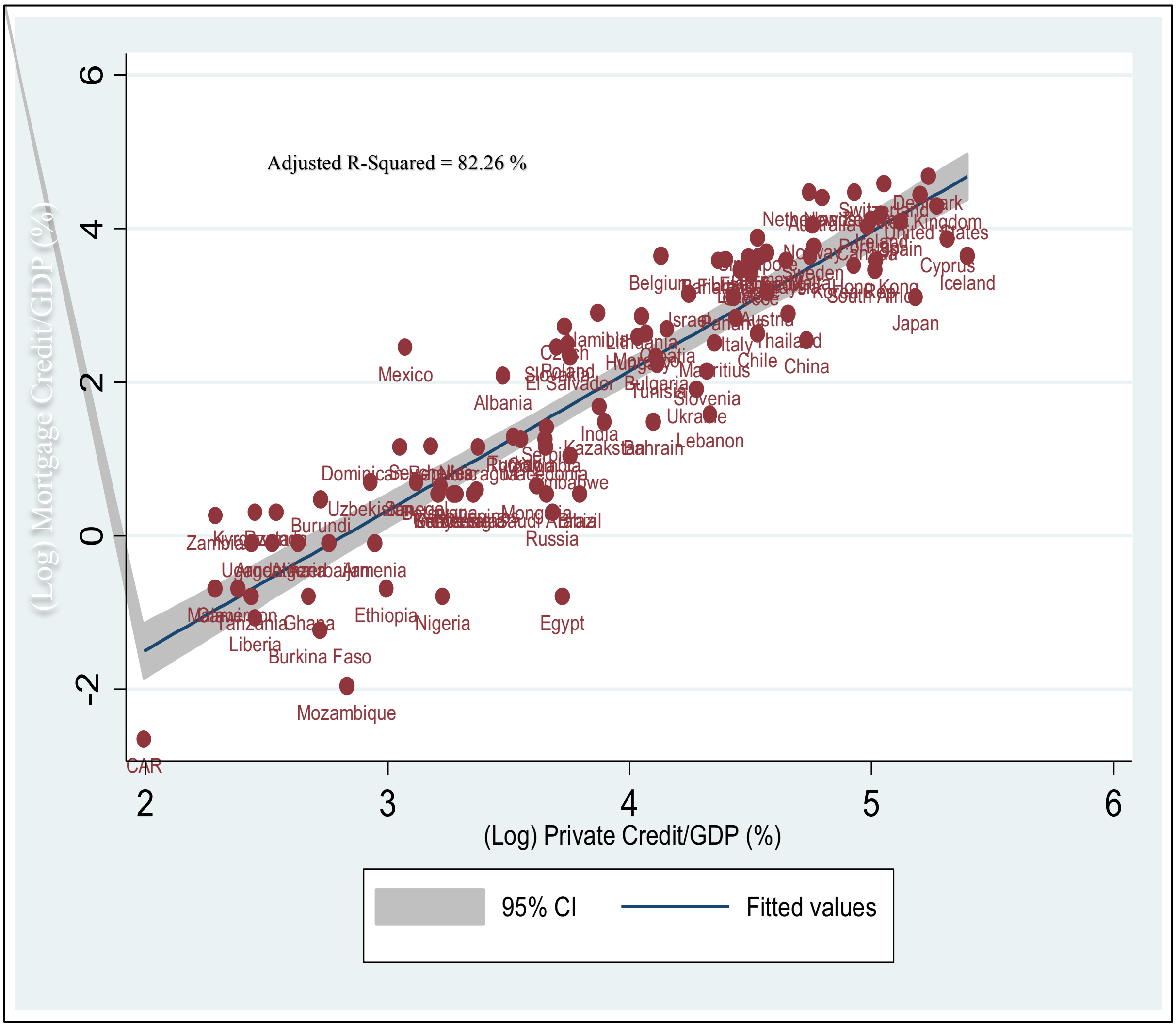
APPENDICES

Appendix A: List of Developing Countries

Low-Income	Middle-Income	High-Income
Haiti, Nepal, Benin, Burkina Faso, Congo, Dem. Rep., Gambia, Guinea, Liberia, Madagascar, Malawi, Mali, Niger, Tanzania, Togo, Uganda, Sierra Leone, Burundi, Central African Republic, Chad, Eritrea, Guinea-Bissau, Mozambique	Bulgaria, Malaysia, Dominican Republic, Macedonia, Ecuador, Bosnia and Herzegovina, Peru, Costa Rica, El Salvador, Iran, Turkey, Honduras, Guatemala, Paraguay, Romania, Bolivia, Nicaragua, Egypt, Arab Rep., Morocco, Serbia, Mongolia, Mauritius, Belarus, Gabon, Vietnam, Tunisia, Cabo Verde, Albania, Lebanon, Cameroon, Congo, Rep., Senegal, Côte d'Ivoire, Azerbaijan, Angola, Jordan, Yemen, Djibouti, Mauritania, Botswana, Colombia, Fiji, Georgia, Ghana, Kazakhstan, Kenya, Namibia, Panama, Papua New Guinea, Philippines, São Tomé and Príncipe, South Africa, Sri Lanka, Swaziland, Thailand, Ukraine, Zambia, Algeria, Belize, Dominica, Grenada, Guyana, Jamaica, Lesotho, Samoa, Solomon Island, St Lucia, St Vincent and Grenadines, Sudan, Surinam, Tajikistan, Tonga, Vanuatu	Kuwait, Venezuela, Uruguay, Seychelles, Qatar, St Kitts and Nevis, Poland, Saudi Arabia, Oman, Lithuania, Bahrain, Argentina, Trinidad and Tobago, Brunei Darussalam, United Arab Emirates, Croatia, Antigua and Barbuda, Bahamas, Chile, Hungary, Equatorial Guinea

Appendix B: Private Credit/GDP (%) and Mortgage Debt/GDP (%)



Appendix C: Supplementary Descriptive Statistics

Variable	Observations	Mean	Standard Error	Minimum	Maximum
Panel C: Low-Income Countries					
Private Credit/GDP	176	2.545	0.044	1.344	3.969
Getting Credit	176	3.197	0.033	2.526	3.912
Contract Enforcement Procedures	176	3.673	0.006	3.501	3.784
Registering Property (Cost)	176	2.270	0.039	1.226	3.045
Public Credit Register Coverage	176	2.377	0.007	2.303	2.579
Private Credit Bureaus Coverage	176	2.396	0.155	2.303	3.040
Consumer Price Index (Volatility)	176	-0.210	1.245	-29.907	29.932
Construction Permit (Ease)	176	3.957	0.024	3.328	4.445
Bank Branches Per 1000 Adults	176	0.661	0.055	-1.021	2.248
Urban Population (%)	176	0.191	0.003	0.131	0.311
Population (15 – 64 years)	176	3.964	0.004	3.852	4.102
Life Expectancy (Years)	176	4.008	0.007	3.758	4.225
Panel D: Middle-Income Countries					
Private Credit/GDP	584	3.572	0.028	1.834	5.076
Getting Credit	584	3.726	0.023	2.344	4.605
Contract Enforcement Procedures	584	3.636	0.005	3.332	3.899
Registering Property (Cost)	584	1.765	0.029	0.095	3.148
Public Credit Register Coverage	584	2.676	0.022	2.303	4.277
Private Credit Bureaus Coverage	584	2.884	0.033	2.303	4.700
Consumer Price Index (Volatility)	584	-0.070	0.663	-36.915	36.893
Construction Permit (Ease)	584	4.163	0.010	3.639	4.530
Bank Branches Per 1000 Adults	584	2.363	0.040	-0.409	4.989
Urban Population (%)	584	0.146	0.001	0.107	0.210
Population (15 – 64 years)	584	4.131	0.004	3.899	4.281
Life Expectancy (Years)	584	4.223	0.004	3.990	4.384
Panel E: High-Income Countries					
Private Credit/GDP	168	3.721	0.046	2.116	4.664
Getting Credit	168	3.838	0.033	2.931	4.541
Contract Enforcement Procedures	168	3.687	0.012	3.401	3.912
Registering Property (Cost)	168	1.094	0.089	-0.523	2.646
Public Credit Register Coverage	168	2.602	0.036	2.303	3.510
Private Credit Bureaus Coverage	168	3.119	0.068	2.303	4.700
Consumer Price Index (Volatility)	168	-0.417	0.950	-26.964	26.900
Construction Permit (Ease)	168	4.234	0.017	3.709	4.513
Bank Branches Per 1000 Adults	168	2.903	0.051	1.401	4.203
Urban Population (%)	168	0.125	0.002	0.100	0.180
Population (15 – 64 years)	168	4.239	0.005	4.122	4.395
Life Expectancy (Years)	168	4.333	0.002	4.300	4.389

Appendix D: Regional Mortgage Debt/GDP Ratios

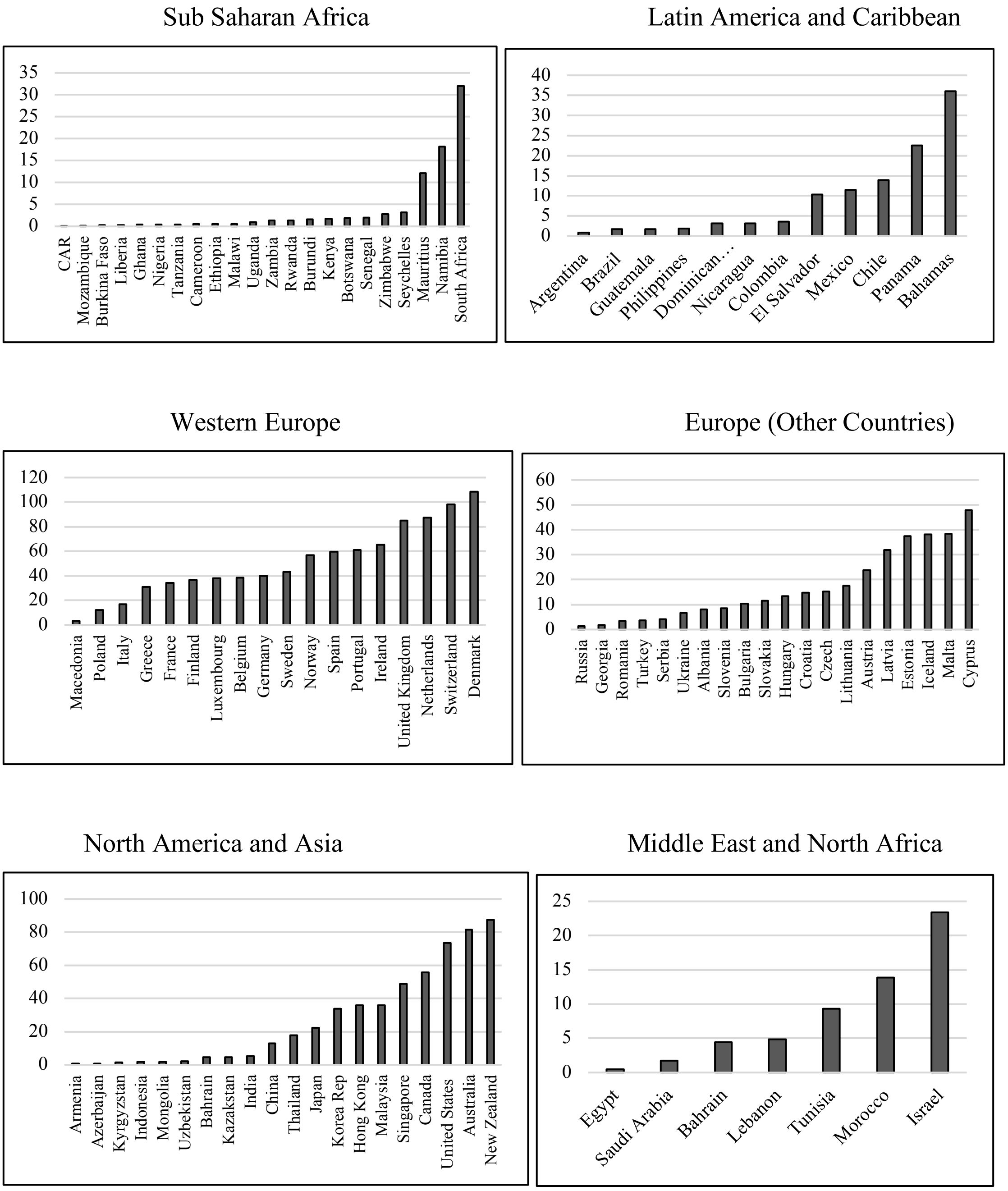


Figure 5.2: The Depth of Mortgage Finance Markets: Regions and Individual Countries

Source: Author’s estimates based on data from Badev et al (2014) and CAHF (2012; 2013; 2014; 2015; 2016)

Appendix F: Correlation Matrices

The correlations coefficients reported in Appendices D1 and D2 are Pearson product-moment correlation coefficient. It is a measure of the strength and direction of association that exists between two continuous variables. A correlation coefficient can either be positive or negative. While a positive correlation coefficient signifies that the two variables are moving in the same direction, a negative correlation coefficient indicates that the two variables are moving in opposite directions. A correlation does not imply causation. A coefficient value of $0.1 < | r | < .3$ is a small correlation; $0.3 < | r | < .5$ is medium or moderate correlation; and $| r | > .5$ is a large or strong correlation. The Pearson correlation coefficient is estimated based on four assumptions: (1) the two variables are measured at the continuous level; (2) there is a linear relationship between your two variables; (3) there is no significant outliers; and (4) the variables are approximately normally distributed.

Appendix F1: Correlation Matrix for Cross Sectional Data

	Mortgage Credit/GDP	Private Credit/GDP	Getting Credit	Contract Enforcement Cost	Public Credit Register Coverage	Private Credit Bureaus Coverage	Credit Information Depth	Registering Property (Cost)	Bank Branches Per 1000 Adults	Urban Population (%)	Population (15 – 64 years)	Life Expectancy (Years)	Construction Permit (Ease)	Consumer Price Index	Consumer Price Index (Volatility)	GDP Per Capita	Credit Protection Quality	Externality Distance
Mortgage Credit/GDP	1.000																	
Private Credit/GDP	0.908	1.000																
Getting Credit	0.615	0.551	1.000															
Contract Enforcement Cost	-0.468	-0.409	-0.424	1.000														
Public Credit Register Coverage	0.002	0.004	0.031	0.057	1.000													
Private Credit Bureaus Coverage	0.522	0.524	0.606	-0.397	-0.116	1.000												
Credit Information Depth	0.607	0.602	0.701	-0.309	0.249	0.841	1.000											
Registering Property (Cost)	-0.117	-0.119	-0.299	0.042	0.090	-0.232	0.090	1.000										
Bank Branches Per 1000 Adults	0.720	0.696	0.459	-0.259	0.235	0.370	0.235	-0.206	1.000									
Urban Population (%)	-0.089	-0.155	-0.061	0.057	-0.016	-0.112	-0.016	-0.060	-0.172	1.000								
Population (15 – 64 years)	0.625	0.647	0.412	-0.218	0.087	0.446	0.087	-0.306	0.722	-0.160	1.000							
Life Expectancy (Years)	0.272	0.324	0.158	-0.072	0.102	0.195	0.102	-0.164	0.380	0.037	0.291	1.000						
Construction Permit (Ease)	0.394	0.312	0.206	-0.071	0.003	0.123	0.003	-0.083	0.214	-0.044	0.106	0.164	1.000					
Consumer Price Index	0.406	0.361	0.199	-0.101	0.196	0.213	0.196	-0.113	0.318	0.239	0.364	0.231	0.179	1.000				
Consumer Price Index (Volatility)	-0.462	-0.449	-0.201	0.187	-0.059	-0.309	-0.059	-0.210	-0.327	0.449	-0.218	-0.150	-0.280	0.079	1.000			
GDP Per Capita	0.854	0.814	0.571	-0.379	0.036	0.549	0.036	-0.192	0.764	-0.155	0.722	0.339	0.400	0.467	-0.393	1.000		

Appendix F2: Correlation Matrix for Panel Data

	Private Credit/GDP	Getting Credit	Contract Enforcement Procedures	Public Credit Register Coverage	Private Credit Bureaus Coverage	Public Credit Register Coverage + Private Credit Bureaus Coverage	Registering Property (Cost)	Bank Branches Per 1000 Adults	Urban Population (%)	Population (15 – 64 years)	Life Expectancy (Years)	Construction Permit (Ease)	Consumer Price Index	GDP Per Capita	Common Law	Civil Law
Private Credit/GDP	1.000															
Getting Credit	0.508	1.000														
Contract Enforcement Procedures	-0.145	-0.235	1.000													
Public Credit Register Coverage	-0.054	0.125	-0.049	1.000												
Private Credit Bureaus Coverage	0.304	0.581	-0.274	0.107	1.000											
Public Credit Register Coverage + Private Credit Bureaus Coverage	0.106	0.389	-0.175	0.872	0.580	1.000										
Registering Property (Cost)	-0.299	-0.308	0.148	-0.113	-0.292	-0.237	1.000									
Bank Branches Per 1000 Adults	0.694	0.321	-0.111	0.035	0.327	0.189	-0.282	1.000								
Urban Population (%)	-0.231	-0.145	0.162	-0.190	-0.262	-0.285	0.225	-0.367	1.000							
Population (15 – 64 years)	0.661	0.348	-0.065	0.097	0.340	0.247	-0.312	0.333	-0.357	1.000						
Life Expectancy (Years)	0.681	0.313	-0.028	0.112	0.299	0.239	-0.349	0.330	-0.394	0.360	1.000					
Construction Permit (Ease)	0.135	0.159	0.078	-0.093	0.048	-0.052	-0.086	0.156	-0.099	0.099	0.099	1.000				
Consumer Price Index	0.079	0.141	-0.001	0.104	0.129	0.148	-0.049	0.045	-0.038	0.036	0.056	0.078	1.000			
GDP Per Capita	0.557	0.386	-0.061	0.103	0.423	0.293	-0.377	0.399	-0.466	0.369	0.375	0.222	0.066	1.000		
Common Law	0.223	0.056	0.056	-0.382	0.105	-0.261	-0.034	0.138	0.130	0.116	0.040	0.159	-0.014	0.188	1.000	
Civil Law	-0.235	-0.224	0.078	0.429	-0.077	0.313	0.156	-0.116	-0.086	-0.198	-0.072	-0.101	0.013	-0.179	-0.886	1.000

Appendix F3: Low-Income Countries

Variables	Private Credit	Creditor Protection	Foreclosure Efficiency	Registering Property	Public Credit Register	Inflation Volatility	Construction Permit	Financial Access	Urban Population (%)	Population (15-64 years)	Life Expectancy
Private Credit	1.000										
Mortgage Legal Rules	0.195	1.000									
Mortgage Foreclosure	-0.329	0.011	1.000								
Registering Property	-0.344	-0.451	0.189	1.000							
Pubic Credit Register	0.344	-0.141	-0.073	0.441	1.000						
Inflation Volatility	-0.153	0.138	-0.043	-0.103	0.079	1.000					
Construction Permit	-0.123	0.314	-0.080	-0.057	0.001	0.201	1.000				
Financial Access	0.728	0.300	-0.514	-0.360	0.145	0.224	-0.046	1.000			
Urban Population (%)	0.213	0.150	0.237	-0.501	-0.308	-0.078	-0.175	-0.094	1.000		
Population (15 -64 years)	0.290	-0.123	0.051	-0.037	-0.011	0.060	-0.130	0.279	-0.300	1.000	
Life Expectancy	0.583	0.051	-0.273	-0.380	-0.121	0.149	-0.108	0.459	0.067	0.348	1.000

Appendix F4: Middle-Income Countries

Variables	Private Credit	Creditor Protection	Foreclosure Efficiency	Registering Property	Public Credit Register	Private Credit Bureaus	Inflation Volatility	Construction Permit	Financial Access	Urban Population (%)	Population (15-64 years)	Life Expectancy
Private Credit	1.000											
Mortgage Legal Rules	0.436	1.000										
Mortgage Foreclosure	-0.097	-0.264	1.000									
Registering Property	-0.203	-0.343	0.321	1.000								
Pubic Credit Register	0.183	0.365	-0.165	-0.180	1.000							
Private Credit Bureaus	0.251	0.546	-0.266	-0.351	0.215	1.000						
Inflation Volatility	-0.101	0.166	-0.044	0.010	0.161	0.175	1.000					
Construction Permit	-0.190	0.064	0.083	0.133	-0.106	0.025	0.165	1.000				

Financial Access	0.551	0.444	-0.094	-0.043	0.290	0.247	0.066	0.117	1.000			
Urban Population (%)	0.099	-0.064	0.059	0.170	-0.399	-0.250	-0.037	0.200	-0.222	1.000		
Population (15 -64 years)	0.568	0.413	-0.381	-0.259	0.309	0.248	0.044	-0.114	0.445	-0.341	1.000	
Life Expectancy	0.552	0.319	-0.307	-0.025	0.357	0.159	0.058	0.041	0.640	-0.250	0.682	1.000

Appendix F5: High-Income Countries

Variables	Private Credit	Creditor Protection	Foreclosure Efficiency	Registering Property	Public Credit Register	Private Credit Bureaus	Inflation Volatility	Construction Permit	Financial Access	Urban Population (%)	Population (15-64 years)	Life Expectancy
Private Credit	1.000											
Mortgage Legal Rules	0.312	1.000										
Mortgage Foreclosure	-0.257	-0.084	1.000									
Registering Property	-0.217	0.000	-0.026	1.000								
Pubic Credit Register	0.163	0.221	-0.422	-0.023	1.000							
Private Credit Bureaus	0.089	0.637	-0.170	-0.093	0.327	1.000						
Inflation Volatility	-0.108	0.172	0.045	-0.035	0.030	0.125	1.000					
Construction Permit	-0.320	-0.281	0.361	-0.041	-0.127	-0.525	0.119	1.000				
Financial Access	0.372	0.136	-0.124	0.110	-0.117	-0.184	0.034	-0.112	1.000			
Urban Population (%)	0.063	0.008	0.115	0.553	-0.356	-0.227	0.030	0.166	0.284	1.000		
Population (15 -64 years)	0.467	-0.117	0.451	-0.463	-0.179	-0.172	0.144	0.406	-0.087	-0.301	1.000	
Life Expectancy	0.100	0.011	-0.244	-0.183	0.236	0.021	-0.031	0.011	0.091	-0.152	0.225	1.000

Appendix G: Hausman Test Results

	Coefficients			
	(b) fe	(B) re	(b-B) Difference	Sqrt (diag (V_b-V_B)) S.E
Getting Credit	0.073	0.083	-0.011	0.007
Contract Enforcement Procedure	-1.467	-0.983	-0.484	0.347
Public Registers Coverage	0.028	0.013	0.015	0.005
Private Bureaus Coverage	-0.025	-0.028	0.004	0.006
Property Registration & Transfer cost	0.039	0.032	0.007	0.012
Bank branches per 100,000 adults	0.244	0.237	0.007	0.011
Urban Population Share (%)	6.589	3.383	3.207	2.001
Population (15 – 64 years) %	1.451	1.507	-0.056	0.442
Life Expectancy	3.173	1.961	1.212	0.505
Ease of Construction Permitting	-0.044	-0.028	-0.016	0.008
Inflation Volatility	-0.0005	-0.0005	-0.000	0.000
2007bn.year	0.054	-0.059	-0.005	0.004
2008.year	0.098	0.108	-0.010	0.010
2009.year	0.122	0.139	-0.017	0.014
2010.year	0.096	0.118	-0.022	0.019
2011.year	0.098	0.124	-0.027	0.022
2012.year	0.093	0.123	-0.030	0.026
2013.year	0.116	0.151	-0.035	0.029

Prob>chi^2	Chi^2 (17) = (b-B)[(V_b-V_B)^(-1)](b-B)
0.204	21.51

Appendix H

SCHOOL OF REAL ESTATE AND PLANNING

Survey of Lenders and Stakeholder Experiences with Mortgage Financing in Ghana

Information Sheet

Your firm is being asked to participate in a research study conducted by Kenneth Donkor-Hyiaman, a doctoral researcher, who is supervised by Professor Michael Ball and Professor. Gianluca Marcato of the School of Real Estate and Planning, Henley Business School, University of Reading, UK. Your firm is eligible to participate in this study if it a financial institution.

The purpose of the research is to gain better understanding of the drivers of mortgage market development and how they affect mortgage market development in Ghana. If your firm agrees to participate in this study, we will ask you to fill out our two-section questionnaire. Section I borders on institutions and mortgage product profiling and requires you to supply information about your firm in relation to mortgage/housing finance products [if your firm offers any to its clients]. Section II, will ask you to respond to a series of statements about factors we anticipate affect mortgage market development.

Risks and Benefits: No risks are anticipated beyond those encountered in day-to-day life. The benefit of your firm participating to this study is contributing to the academic society to build better a understanding of how the mortgage market in Ghana works and can be improved and developed to promote economic growth and development.

Your answers will be confidential: The records of this study will be kept private. Research records will be kept securely and only the researcher will have access to them. Taking part is voluntary. If the firm decides to participate, it is free to withdraw at any time without affecting those relationships.Questions and enquiry: Please ask any questions you have by emailing Kenneth Donkor-Hyiaman at k.donkor-hyiaman@pgr.reading.ac.uk or ringing him at +2330555550029 (Ghana) and +44 (0) 7477124428 (UK). If you have questions later or you wish to be advised about the result of this study, the firm may contact him using any of his contact information listed in this form. If you have questions or concerns regarding the rights of your firm as a subject, you may contact Caroline Breede Representative of School of Real Estate and Planning, Henley Business School, University of Reading at +44 (0) 1491 571454.

Statement of Consent: As a representative of my firm, ……………………………………………………………………………….., I have read this information form, and I have received answers to all of my questions. I understand this document and that my firm freely consents to participate in this study. By providing responses to the survey, I understand that this is an agreement to allow the researcher to use my firm's responses as described above.

Henley Business School
UNIVERSITY OF READING

Consent Form

1. I have read and had explained to me by ……………………………………………..…the accompanying Information Sheet relating to the project on:………………………………...
2. I have had explained to me the purposes of the project and what will be required of me, and any questions I have had have been answered to my satisfaction. I agree to the arrangements described in the Information Sheet in so far as they relate to my participation.
3. I understand that participation is entirely voluntary and that I have the right to withdraw from the project any time, and that this will be without detriment.
4. This application has been reviewed by the University Research Ethics Committee and has been given a favourable ethical opinion for conduct.
5. I have received a copy of this Consent Form and of the accompanying Information Sheet.

Name:……………………………………………..………………………………………

Signed: …………………………………………..……………………………….............

Date: …………………………………………..…………………………………………

Appendix I: Key Informants

Name	Position	Institution
Asare Akuffo	Former Managing Director	HFC Bank
Dominic Adu	Chief Executive Officer	Ghana Home Loans (now GHL Bank)
Stephanie Baeta-Ansah	Former Managing Director	HFC Bank
Edward Opare-Donkor	Chief Operating Officer	Fidelity Bank
Erica Eduam	Collateral Manager	Ghana Home Loans
Anna Owusu-Sekyere	Manager, Home Loans	Stanbic Bank
Kenneth Ghartey	Head, Collections Department	Stanbic Bank
Robert Karikari Darko	Head, Corporate and Specialised Credit Department	ADB Bank
Jessie Jacintho	Head of Legal Division	GCB Bank Ltd
George Amoako-Nimako	Chief Manager, Estates and Mortgages	State Insurance Company
Omari	Deputy Head, Corporate Division	GCB Bank Ltd
Martey Korley	Credit Officer	Sahel Sahara Bank
Marshall	Senior Credit Analyst	GCB Bank Ltd
Daniel Sai Akrong	Head of Facilities and Support Services Division	GCB Bank Ltd
Peace Gbati	Service Advisor (Former Mortgage Analyst)	First National Bank (former at Ghana Home Loans)
Michael Obeng	Relationship Manager (Former Mortgage Analyst)	Zenith Bank (former at Ghana Home Loans)
Jerry Gavu	Client Manager, Transaction Banking	Standard Chartered Bank
Dansoaa Siaw-Misa	Sales Manager (former Collateral Manager)	Rendeavour (former at Ghana Home Loans)
Marshall Azinim	Investment Analyst	Assenta Property Group
Emmanuel Ofori-Danquah	Facilities/Estates Manager	GCB Bank Ltd
George Nartey	Manager, Consumer Credit	GCB Bank Ltd
William Bobbie	Managing Director	Propco (VRA Property Holding Company)

Ohui Darkoa Caesar-Dzunu	Centre Manager, Marina Mall	Broll Ghana
Nana Aba Adjin-Tettey	Development Manager	ERIS Properties
Dominic Kwaku Darkwa	Manager, Group Operations and Head of Leasing Team	Assenta Property Group
kwabena Asare Dometey	Senior Estate Officer	State Insurance Company
Frank Gyamfi-Yeboah, PhD	Senior Lecturer and Managing Partner	Kwame Nkrumah University of Science and Technology; Lifespring Consult
Jonathan Zinzi Ayitey	Senior Lecturer (Real Estate/Land Economy)	Kwame Nkrumah University of Science and Technology
Nicholas Addai-Boamah	Senior Lecturer (Real Estate Finance/Land Economy)	University of Development Studies
Kenneth Ghartey	Lecturer in Law	Lancaster University Ghana
Andrew Agblobi	Lecturer	Ghana Institute of Management and Public Administration
Emmanuel Gavu	Lecturer (Real Estate/Land Economy)	Kwame Nkrumah University of Science and Technology
Bright Addo	Valuation Officer	Value Properties Ghana
Richmond Juvenil Ehwi	Researcher	Oxford Research Group

Appendix J: Interview Guide

1. What is your general view about the mortgage market in Ghana?
2. Would you agree to the view that the mortgage market is underdeveloped? If YES, why do you agree? What factors account for the underdeveloped mortgage market?
3. In what ways do these factors affect the mortgage market?
4. Would you agree to the view that the legal and regulatory framework for financial contracting and mortgage foreclosure are conducive for developing the mortgage market? If No, why?
5. How well are you able to assess the creditworthiness of borrowers? What are the challenges in access credit information? Do you use informal networks to verify the creditworthiness of borrowers?
6. To what extent does culture and tradition affects demand for mortgages?
7. To what extend does religion affect demand for mortgages?
8. Which of the factors mentioned above is the most critical for improvement?

Appendix K: Interviewee Characteristics and Variations in Responses

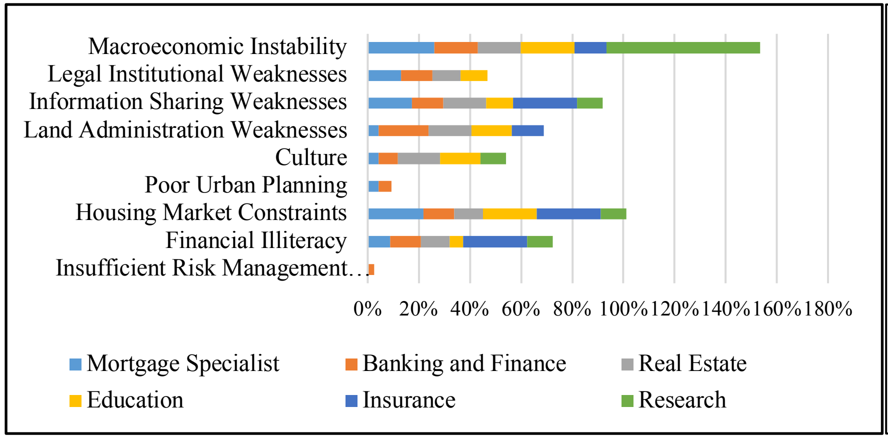


Figure 4.7: Industry Responses

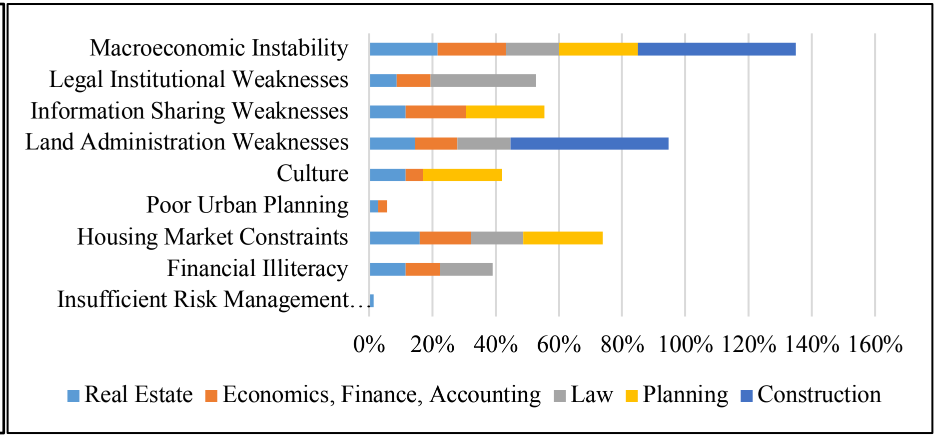


Figure 4.8: Educational Background

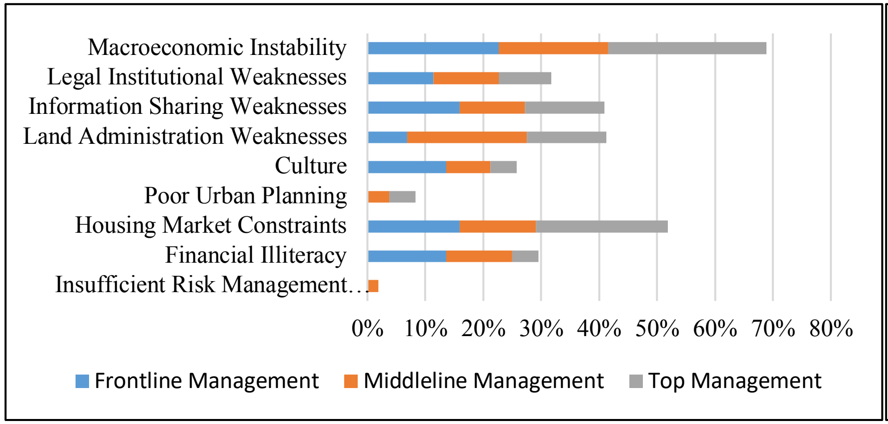


Figure 4.9: Management Level

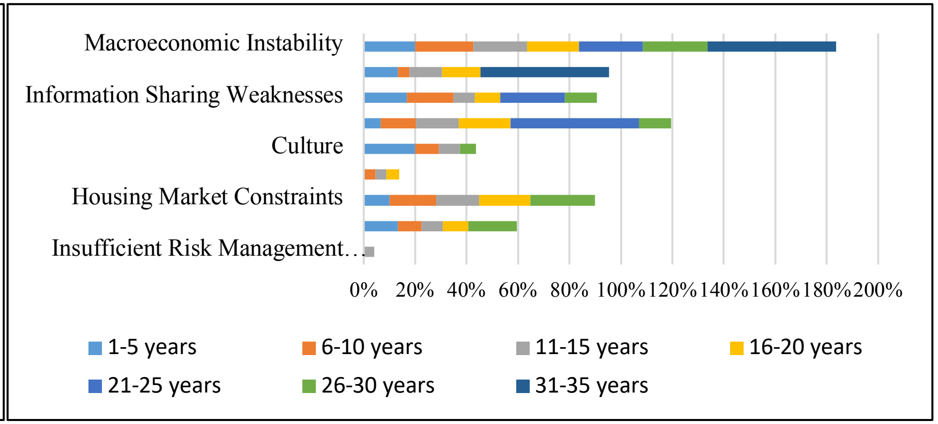


Figure 4.10: Work Experience

Source: Survey (2016)

Appendix L

The responses of the 16 respondents were matched to that of the five respondents who recommended them. In terms of the most important factors identified by the respondents, only 4 of the responses out of the 16 responses were similar to those proffered by the respondents who recommended them. Only 2 out of 7 respondents recommended by respondent A had similar opinions as respondent A (constituting 29%) that macroeconomic challenges were the most important. Only 1 out 4 respondents recommended by respondent B concurred with the latter (constituting 25%) that land administration weakness was the most important factor. One out of 3 respondents agreed with respondent C that culture was the most important factor. There was no convergence in opinion between the respondent D and E and the respondents (1 each) they recommended.

It is important to note that the few similarities may just be a matter of correlation and not causation.

	Respondents				
	A	B	C	D	E
Insufficient Risk Management Infrastructure					
Financial Illiteracy					
Housing Market Constraints					
Poor Urban Planning					
Culture			15		
Land Administration Weaknesses		9			
Information Sharing Weaknesses					
Legal Institutional Weaknesses					
Macroeconomic Instability	2, 3				
Total Number of Recommendations (by Respondents A, B, C, D, and E)	7	4	3	1	1
Convergence in Choice (Number of Respondents)	2	1	1	0	0
% Convergence in Choice	29%	25%	33%	0%	0%

Note: A, B, C, D, and E are the five respondents who recommended the 16 additional respondents. 2, 3, 9, and 15 are the four respondents out of the 16 respondents who had similar opinion as those who recommended them.